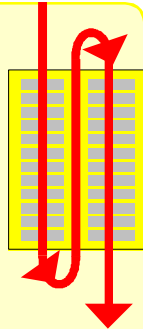



# Instructions

Scrolling through a two-column document on-screen from the bottom of one column to the top of the next, and so on, can get very tedious. Fortunately, "column threading" is automatic with this software. Here are the basic tools and techniques that you need to know to efficiently navigate through the columns in this document ...



1. Click on the hand tool in the button bar. 

2. Whenever the hand cursor is positioned over a column, the cursor changes to the "read article cursor",  and "Read Article" appears in the status bar to indicate that this text is part of an "article". *An article is a collection of columns selected by the editor that comprise one subject, like one of the articles on the front page of a newspaper. Each first-level section (1.1, 1.2, 1.3...) of the NTIA Manual has been defined as a separate article.* Click any part of the article to start reading at that point, or control-click to start at the beginning of the article. The cursor now changes to the follow-article cursor, and "Follow Article" appears in the status bar.



3. To page down, simply click the mouse, or use the scrollbar, or press the PageDown key. *You can keep track of where you are on the page if you're using the thumbnails-and-page view. In this view a selection rectangle moves over a thumbnail of the page as you scroll through the columns in the page view window.*




4. You can continue to click until you reach the end of the article. At the end of the article, the cursor changes to the end-article cursor, and "End Article" appears in the status bar. Click again to return to the page view displayed before you started reading the article. Click the fit page button.


5. If you want to exit before the end of the article...

- select any navigation method (but not Enter or Return)
- Go to another article or page
- Hold down Shift + Ctrl and click.



6. You can also select which article (NTIA Manual Section) to view by choosing “Articles...” from the View menu, and then selecting the article you want from the dialog box that appears. *You can keep this dialog box displayed so you can go from one article to another, or better yet, use the bookmarks method described in #7 below.*

7. The **best way** to select which article (NTIA Manual Section) to view is to switch to the “Bookmarks-and-Page” view, click  on the section name bookmark, **click with the hand cursor on the page**, then navigate with the hand tool as described in #1-5 above. Links to all of the sections are provided — as well as links to tables, figures, endnotes, and even these instructions.

8. To select text within a column, click the text selection tool, hold down the Control key, and drag to select the text you want to copy. 

## CHAPTER 9

# Preparation of Applications for Frequency Assignment Action

## 9.1 DETERMINING WHEN THE SUBMISSION OF AN APPLICATION IS REQUIRED

### 9.1.1 When the Submission of an Application is Required to Obtain Authority to Use a Frequency

1. Except as provided in Section 9.1.2, the submission of an application is required to obtain authority for a Government radio station to use a frequency within the United States and Possessions. (Applications of the Government of the Trust Territory of the Pacific Islands are included by arrangement.)

2. For satellite systems employing multiple space stations with the same general characteristics, a separate application shall be submitted for each space station on geostationary satellites; for nongeostationary satellites, one application shall be submitted covering all the space stations in the system.

### 9.1.2 When the Submission of an Application is Not Required to Obtain Authority to Use a Frequency

1. In accordance with the provisions of Part 7.1, the submission of an application is not required to obtain authority to use a frequency above 3000 GHz.

2. Parts 7.3 through 7.17 authorize the use of certain frequencies under specified conditions. The submission of an application is not required to obtain authority for such use, inasmuch as the authority is granted by the Parts cited; however, an application may be submitted, at the option of the applicant, to provide an entry in the Government Master File (GMF).

3. Mobile stations are authorized as a class of station rather than as individual stations, e.g., 25 mobile stations may be authorized by a single application as opposed to 25 applications. The submission of an application is not required to obtain authority for individual mobile stations to use a frequency in those cases in which the frequency is authorized to the agency for use by mobile stations as a class, provided such stations do not exceed the authority granted.

4. Individual user agencies are not required to submit applications to obtain frequency authority for stations operating in a trunked land-mobile radio system. The agency, or designated lead agency managing the system, will obtain authority for all stations that use the system.

5. Transportable operations may be authorized to defined classes of stations, e.g., fixed (FX), by including on the application the record note S362 (Transportable operations). As in the case cited above for mobile stations, transportable operations are authorized to a class of station rather than to individual stations, e.g., 25 fixed stations may be authorized for transportable operations within a specified geographic area by the submission of a single application as opposed to 25 applications. The submission of an application is not required to obtain authority for individual stations to use a frequency for transportable operations, provided the frequency is authorized to the agency for use by such stations as a class, the assignment includes the Record Note S362, and the stations do not exceed the authority of the frequency assignment.

### 9.1.3 When the Submission of an Application is Required for the Notification of the Use of a Frequency

Section 9.1.1 provides for the use of an application to obtain authority for a Government radio station to use a frequency. An application also is used to notify the bringing into use or the intended bringing into use of a frequency under the terms of existing frequency assignment authority or where no frequency assignment authority is required. The cases involving the submission of an application for the notification of the use of a frequency are as follows:

1. The establishment of a station under the authority of a GROUP frequency assignment (see Section 9.6.5) shall be notified prior to the commencement of operations in the following cases:

a. When coordination with Canada is required (see Part 3.4).

b. When coordination in respect of the National Radio Quiet Zone is required (see Section 8.3.9).

c. When coordination in respect of the Table Mountain Radio Receiving Site is required (see Section 8.3.20).

2. The establishment of a station under the authority of a GROUP FREQUENCY ASSIGNMENT shall be notified prior to or soon after the commencement of operations in the following cases:

a. For the use of a frequency in the bands:

30.00-50.00 MHz  
138.00-144.00 MHz  
148.00-149.90 MHz  
150.05-150.80 MHz  
162.00-174.00 MHz  
406.10-420.00 MHz

except for periods so limited (on the order of six months or less) that notification would be impracticable, as determined by the applicant, e.g., certain tactical or training operations.

b. For the use of a frequency in the bands:

400.15-406.00 MHz  
1660.00-1700.00 MHz

by meteorological aids at other than transient

locations or for periods in excess of 15 days.

c. For the use of any frequency authorized by an assignment bearing Note S322 in the NOTES field, except for periods of use so limited (on the order of six months or less) that notification would be impracticable (see Section 9.6.5).

3. The establishment of a station under the authority of Section 7.5.2 or Part 7.12, may be notified at the option of the agency concerned when it is determined that notification is practicable and desirable.

4. Section 8.3.11 provides that Government agencies shall coordinate with the IRAC certain uses of frequencies by their stations located outside the United States and Possessions. For those uses requiring coordination, such coordination may be effected, at the option of the agency concerned, by the submission of an application for the notification of the use of the frequency.

#### **9.1.4 Applications Required for Private Contractors**

1. If a private contractor requires the use of radio frequencies under the terms of a Government contract, a determination must be made as to whether the Government agency should apply to the IRAC for the frequency authorization or whether the contractor should apply to the FCC. The determination is based upon whether the radio station “belongs to and is operated by” the Government agency or the contractor. Section 305 of the Communications Act of 1934, as amended, provides in part that “Radio stations belonging to and operated by the United States shall not be subject to the provisions of Sections 301 and 303 of this Act. All such Government stations shall use such frequencies as shall be assigned to each or to each class by the President” (see Section 8.2.17).

2. When the FCC coordinates with the Frequency Assignment Subcommittee (FAS) of the IRAC a proposed radio frequency authorization to be used directly in support of a Government

contract (excluding a grant), the contracting Government agency is responsible for

- a. verifying the validity of the contract, and
- b. certifying that the proposed frequency authorization or its equivalent is necessary for the fulfillment of the contract.

## 9.2 SPECIAL INSTRUCTIONS CONCERNING CERTAIN APPLICATIONS

### 9.2.1 Applications Handled by AAG or MAG

Application for the use of frequencies in the following bands shall be in accordance with the provisions of Part 9.14 (all ranges are inclusive):

#### AAG

190-285 kHz  
 285-435 kHz\*  
 510-535 kHz\*  
 74.800-75.200 MHz  
 108.000-121.9375 MHz  
 123.5875-128.8125 MHz  
 132.0125-137.000 MHz  
 328.6-335.4 MHz  
 978-1020 MHz inclusive  
 1030 MHz  
 1031-1087 MHz inclusive  
 1090 MHz  
 1104-1146 MHz inclusive  
 1157-1213 MHz inclusive  
 5000-5250 MHz

\*In these bands only applications for stations in the Aeronautical Radionavigation Service (see Table A, Section 6.1.4) shall be sent to the Chairman of the AAG.

#### MAG

225.0-328.6 MHz  
 335.4-399.9 MHz

### 9.2.2 Applications for Sounder Network Stations or Sounder Prediction Stations

Applications will be in accordance with Section 8.2.21 and include the following in the SUP-

PLEMENTARY DETAILS (SUP) field:

- a. Channeling plan(s) (required for all sounder network stations and, as applicable, for sounder prediction stations) FOR EXAMPLE:

First octave: 2.075 to 3.975 MHz, 20 channels spaced 100 kHz.

Second octave: 4.150 to 7.950 MHz, 20 channels spaced 200 kHz.

Third octave: 8.300 to 15.900 MHz, 20 channels spaced 400 kHz.

Fourth octave: 16.600 to 31.800 MHz, 20 channels spaced 800 kHz.

For those sounders in which the tuning rate is independent of the pulse rate (e.g., Sounder types C2, C3, and C4), wherein the specific frequencies sounded differ from scan to scan, a channeling plan is not a meaningful item. In application for such sounders, so state.

- b. Pulse duration(s)
- c. Pulse repetition rate(s)
- d. Pulses per channel
- e. Scan rate(s)
- f. Scan interval(s) (time between scans)
- g. Antenna type
- h. Antenna azimuth (if directional, indicate azimuth of major lobe).

### 9.2.3 (Reserved)

### 9.2.4 Use of Data Plots and Coordination Contour Maps

1. When requesting assignments, it may be necessary to review a data plot and/or coordination contour map prior to receiving authority to operate:

- a. in the bands:

1710-1850 MHz  
 2200-2290 MHz  
 4400-4990 MHz  
 7125-7250 MHz  
 7300-7975 MHz  
 8025-8500 MHz

for fixed stations involving a communications system which consists of more than two stations

that are interconnected (transportable stations and those located outside of the western hemisphere and south of the equator are exempt); or

b. in the band 7900-8400 MHz for transportable earth stations.

2. Before requesting data plots or coordination contour maps, and prior to submitting the frequency assignment proposal to NTIA, the proposing agency shall coordinate with other agencies having existing assignments in the frequency band(s) and geographic area(s) in which the proposed assignment is being requested.

a. If coordination is successful between concerned agencies without the need for data plots or coordination contour maps, the frequency assignment proposal shall include a statement in the Frequency Assignment Subcommittee (FAS) field that coordination between concerned agencies determined that data plots and/or coordination contour maps were not required.

b. If any concerned agency desires to review a data plot prior to coordinating on the proposed assignment, the applicant shall submit a copy of the application to the FAS Secretary covered by a memorandum indicating data plots are being requested. The applicant shall include a statement in the FAS field that data plots have been requested.

3. For transportable earth station proposals in the band 7900-8400 MHz, successful coordination may not be accomplished even after data plots have been prepared and reviewed. In these cases, the applicant shall provide coordination contour maps to the FAS Secretary. The proposing agency shall include a statement in the FAS field that coordination contour maps have been provided. The methods described in OTP Report 76-99 "Electromagnetic Compatibility of the Department of Defense Ground Mobile Forces Transportable Earth Terminals with Terrestrial Systems within the 7.2-8.4 GHz Spectrum" shall be used to produce the coordination contour maps.

4. The procedures of Section 9.2.4 para-

graphs 1 through 3 shall be used in the processing of applications for NEW actions *and* for MODIFICATION actions which would increase the probability of harmful interference. In the latter case, the record replacement procedure shall be used in lieu of submitting an assignment modification action.

5. Data plots and coordination contour maps will be distributed by the FAS Secretary to agencies having a direct interest in the proposal.

### **9.3 SUBMISSION OF FAS AGENDA MATERIAL**

#### **9.3.1 Frequency Assignment Applications**

1. Applications from FAS Member Agencies shall be submitted as indicated below. See also Part 14 for frequency applications which will be considered by the Aeronautical Assignment Group (AAG) or the Military Assignment Group (MAG). Applications classified CONFIDENTIAL may be transmitted employing STU III or compatible technology or on magnetic discs.

a. *Electronic Transmission.* Applications may be transmitted electronically to NTIA, Frequency Assignment and IRAC Administrative Support Division (FA&IASD) via the dial-up telephone microcomputer system located in the NTIA/FA&IASD office. Procedures for use of this system are provided by FAS Administrative Agenda memoranda.

b. *Magnetic Disc.* Under special circumstances and by prior arrangement with the FAS Chairman, agencies may physically deliver a magnetic disc to the NTIA/FA&IASD at:

U.S. Department of Commerce  
NTIA/FA&IASD  
Room 1605, Herbert C. Hoover Building  
14th & Constitution Avenue, N.W.  
Washington, D.C. 20230

2. U.S. Government agencies that are not members of the FAS and are not represented on the FAS by an FAS Member Agency are repre-

sented by the NTIA/FA&IASD. Those agencies shall send their frequency assignment requests to:

U.S. Department of Commerce  
NTIA/FA&IASD  
Room 1605, Herbert C. Hoover Bldg.  
14th & Constitution Avenue, N.W.  
Washington, D.C. 20230

### **9.3.2 SECRET Documents, Supplemental Material and Administrative Agenda Items**

Documents containing SECRET data, supplemental materials supporting frequency assignment applications (such as charts, maps, etc.), and items for the FAS Administrative Agenda shall be forwarded to the FAS Secretary. Items for the Administrative Agenda must reach the FAS Secretary no later than the day prior to the FAS meeting.

U.S. Department of Commerce  
NTIA/FA&IASD  
ATTN: FAS Secretary  
Room 1605, Herbert C. Hoover Bldg.  
14th & Constitution Avenue, N.W.  
Washington, D.C. 20230

## **9.4 SECURITY CLASSIFICATION OF APPLICATIONS**

1. Classified applications forwarded to NTIA in printed form shall contain all of the security information markings specified for documents in Executive Order 12958 (E. O. 12958) of April 17, 1995. These markings shall be done as defined in the Office of Management & Budget's Information Security Oversight Office (ISOO) Directive No. 1 (32 CFR Part 2001).

2. Special Instructions for Secret Applications.

a. On applications which are classified SECRET:

(1) A statement should be inserted at a

convenient place to the effect that reproduction by the FAS Secretary is authorized; however, this statement need not be included if the applicant has previously given the Executive Secretary of the IRAC written authority to reproduce classified documents. In those cases where the statement is inserted on an application, the statement shall not be included on electronically transmitted applications.

(2) The information that is classified SECRET shall be provided AFTER all other data are completed. An intervening statement preceding the SECRET data noting that the "THE FOLLOWING DATA, WHEN ASSOCIATED WITH THE FOREGOING DATA MAKES THE ENTIRE APPLICATION SECRET" must be included just prior to identifying the secret data.

(3) Information inserted in all other areas of the application shall be unclassified or classified CONFIDENTIAL.

b. As a minimum, for all SECRET applications that are to be considered by the FAS and subsequently recorded in the GMF, the following data items must be included in the CONFIDENTIAL or UNCLASSIFIED portion of the applications:

(1) Agency Serial Number (entered on the COMMAND ENTRY).

(2) Type of Action (TYP).

(3) Security Classification (CLA).

(4) Frequency (FRQ).

(5) Missing Data Indicator (MSD).

(6) Transmitter State/Country (XSC).

c. In addition to the minimum data fields noted in subparagraph 2b above, the following data items shall also be included in all CONFIDENTIAL portions for all SECRET applications:

(1) Declassification Date (CDD).

(2) Original Classification Authority (Circuit Remarks \*CLA); or,

(3) Derivative Classification Authority (Circuit Remarks \*CLF).

(4) Reason for Classification (Circuit Remarks \*CLR), if the Circuit Remarks \*CLA entry is included.

(5) Classified Data Fields (Circuit Remarks \*CLD).

(6) Unclassified Data Fields (Circuit Remarks \*CLU).

(7) Extended Declassification Date (Circuit Remarks \*CDE), if a declassification year and month, or the declassification exemption category 25X1, is not entered in the field CDD.

d. The Missing Data Indicator (MSD) shall contain the letter Z.

e. The information that is classified SECRET shall not be entered on MODIFICATION, RENEWAL, and DELETION actions.

f. SECRET applications will be distributed in accordance with Part 9.3.

g. SECRET data shall not be included on magnetic discs.

## 9.5 (RESERVED)

## 9.6 DESCRIPTION OF TYPES OF FREQUENCY ASSIGNMENTS

### 9.6.1 Regular Assignment

A REGULAR assignment is a frequency assignment for an unspecified period of time; however, the provisions of Section 8.2.6 apply.

### 9.6.2 (Reserved)

### 9.6.3 Temporary Assignment

1. A TEMPORARY assignment is made for a specified period of time not to exceed five years.

a. All assignments with experimental station classes are TEMPORARY assignments.

b. TEMPORARY assignments expire on the date shown in EXD.

c. TEMPORARY assignments may be renewed for additional periods as necessary.

(1) TEMPORARY assignment RENEWAL actions which are to be considered by the FAS shall be submitted at least one month prior

to the Expiration Date (EXD) of the assignment.

2. When a TEMPORARY assignment is renewed or converted to a REGULAR assignment, the date of assignment for PRIORITY purposes shall be the original date from which continuous authorization has been in effect.

### 9.6.4 Trial Assignment

1. A TRIAL assignment is a frequency assignment for the purpose of selecting a suitable SPECIFIC OPERATING FREQUENCY for REGULAR assignment.

a. TRIAL assignments shall be made whenever a trial:

(1) is considered necessary; or

(2) will provide a reasonable basis for judging harmful interference potentialities; or

(3) will resolve objections to a proposed REGULAR or TEMPORARY assignment which are based upon *anticipated* harmful interference.

b. TRIAL assignment operations *MUST* cease upon notice from the IRAC that harmful interference is being caused.

c. Objections based on PRIORITY shall not bar TRIAL assignments.

d. TRIAL assignments initially are not to exceed two years; however, a TRIAL assignment may be renewed for additional periods as necessary. The provisions of Section 9.6.3, paragraph 1.c.(1) applies. TRIAL assignments expire on the date shown in EXD.

2. Conversion from a TRIAL to a REGULAR assignment:

a. Before a TRIAL assignment is converted to a REGULAR assignment there shall have been adequate use of the frequency concerned and evidence thereof presented.

b. Additional limitations shall not be applied to an assignment at the conclusion of a trial period unless the trial develops the need for such limitations.

c. When a TRIAL assignment is converted to a REGULAR assignment, the applicable date of assignment for PRIORITY purposes shall be the

original date from which continuous authorization has been in effect.

### 9.6.5 Group Assignment

1. A GROUP assignment is made only to *terrestrial* stations and:

- a. provides authority to operate but does not represent continuing operations; or
- b. provides an assignment for planning purposes.

2. GROUP assignments shall not be made to telemetering stations in the band 2200-2290 MHz.

3. GROUP assignments may be authorized as REGULAR, TEMPORARY, or TRIAL assignments.

4. There are two types of GROUP assignments:

- a. The first type is one that PROVIDES AUTHORITY to operate but which does not represent continuing operations. The following applies to such assignments:

(1) Note S322 shall be entered in the NOTES (NTS) field. (see Annex A for S322 definition).

(2) The establishment of stations under the authority of these assignments shall be notified prior to or soon after the commencement of operations, except when the period of operation is so limited (on the order of six months or less) that notification would be impracticable (see Section 9.1.3).

- b. The second type of GROUP assignment is one used for PLANNING PURPOSES and represents continuing or definitely anticipated requirements. The following applies to such assignments:

(1) Note S321 shall be entered in the NOTES (NTS) field. (see Annex A for S321 definition).

(2) Such assignments shall not exceed three years.

(3) The technical particulars of these assignments shall describe the intended use of the frequency to the maximum extent practica-

ble at the time of application.

(4) Operations conducted under the authority of this type of GROUP assignment shall be limited to such uses as site surveys and path testing associated with the intended use. This type of GROUP assignment shall not be considered operational but strictly as a planning assignment set aside to satisfy an identified future requirement. However, all S321 assignments are accorded protection and may be coordinated with Canada at the option of the applicant.

## 9.7 FREQUENCY APPLICATION

### 9.7.1 Uses of the Application Format

The APPLICATION FORMAT is used for the following frequency assignment actions:

a. NEW (N)--To apply for a new frequency assignment, the particulars of which, when approved, will be entered in the Government Master File (GMF). See Section 9.8.2, paragraph 40 for special provisions when using a NEW action as a *REPLACEMENT* for an existing GMF record.

b. NOTIFICATION (F)--To notify the bringing into use of a frequency by stations under the authority of:

- (1) Section 9.6.5, or
- (2) Section 9.1.3, or
- (3) Section 7.5.2, or
- (4) Part 7.12, or
- (5) Section 8.3.11.

When approved, NOTIFICATION assignment particulars are also entered into the GMF. See Section 9.8.2, paragraph 40, for special provisions when using a NOTIFICATION action as a *REPLACEMENT* for an existing GMF record.

c. MODIFICATION (M)--To apply for the addition, substitution, or removal of one or more of the particulars, other than the Frequency (FRQ), the Agency Serial Number (SER), or the Transmitter State/Country (XSC), of an existing frequency assignment. The following provisions apply:

(1) No more than 60 data fields of an assignment can be modified at one time.

(2) If more than 60 data fields require modification submit either a NEW or NOTIFICATION action using the *record replacement* feature described in Section 9.8.2, paragraph 40, or a simultaneous DELETION and NEW or NOTIFICATION action.

d. RENEWAL (R)--To apply for the extension of the period of a TEMPORARY or TRIAL assignment (see Part 9.6) and to simultaneously update other particulars of the assignment.

e. DELETION (D)--To apply for the cancellation of a frequency assignment and the removal of all its particulars from the GMF.

### 9.7.2 Rules for the Use of the Application Format

1. Requests in the APPLICATION FORMAT may be submitted electronically or on magnetic disc. All individual data which are to be recorded in the GMF are submitted in accordance with the existing rules listed in Chapter 9.

2. Each request submitted in the APPLICATION FORMAT must contain two types of entries:

--COMMAND ENTRY; and  
--DATA ENTRIES.

3. The following formatting rules must be adhered to:

a. *COMMAND ENTRY*. The COMMAND ENTRY must always be the first entry. This entry consists of the application processing COMMAND and the RECORD IDENTIFIER (Agency Serial Number (SER)).

(1) The COMMAND is designated with one of three coded entries:

(a) \$\$ADD--for NEW and NOTIFICATION actions; or

(b) \$\$CHG--for MODIFICATION, RENEWAL, and DELETION actions.

(c) \$\$MOD--for use only with MODIFICATION actions in accordance with

paragraph 12 below.

(2) The RECORD IDENTIFIER is ALWAYS the Agency Serial Number (SER) of the frequency assignment record.

(a) if \$\$ADD is used, the Agency Serial Number MUST be unique and MUST NOT already be recorded in the GMF.

(b) if \$\$CHG or \$\$MOD is used, the Agency Serial Number MUST be one which is recorded in the GMF.

*Example:*

\$\$ADD AF 821234

b. *DATA ENTRIES*. DATA ENTRIES follow the COMMAND ENTRY. Each DATA ENTRY shall address only one data field and specify the:

(1) DATA FIELD MNEMONIC--a three-letter code which identifies the data field being addressed. (See the Data Field Title line for each data field listed in Section 9.8.2).

(2) OCCURRENCE NUMBER--a two-digit number denoting which occurrence (first, second, etc.) of the field is being addressed, use a leading zero if necessary.

(3) REQUIRED DATA--submitted in accordance with specific instructions listed in Section 9.8.2.

(4) Generally, only those symbols allowed or specified in Section 9.8.2 shall be used as data. However, specifically, the following symbols shall not be used in any data field:

& -- And  
: -- Colon  
] -- Right square bracket  
[ -- Left square bracket  
@ -- At  
# -- Number or pound  
\ -- Reversed virgule  
; -- Semicolon  
? -- Question  
< -- Less than  
> -- Greater than  
% -- Percent  
! -- Exclamation

^ -- Insert (caret)  
 " -- Quotation  
 ' -- Apostrophe

*Example:*

FRQ01 M123.4

--the DATA FIELD MNEMONIC is: FRQ  
 --the OCCURRENCE NUMBER is: 01  
 --the REQUIRED DATA is: M123.4

4. Each application must contain one TYPE OF ACTION (TYP) data entry. The TYPE OF ACTION data entry must consist of one of the following:

N--for NEW actions  
 F--for NOTIFICATION actions  
 M--for MODIFICATION actions  
 R--for RENEWAL actions  
 D--for DELETION actions

5. Each application must also contain a preparation DATE (DAT) entry, which consists of the date in year, month, and day order; use leading zeros for the month and day as necessary.

*Example:*

DAT01 820131

6. The following data fields are multiple occurring; the OCCURRENCE NUMBER must be 01 or greater, but must NOT exceed the maximum allowed for that field.

Codes	Max. Allowable Occurrences	Codes	Max. Allowable Occurrences
STC	20	RAZ	30
EMS	20	RAD	30
PWR	20	RAP	30
NTS	10	ACL	30

RSC	30	REM	30
RAL	30	SRS	09
RRC	30	SEX	09
RLA	30	SUP	15
RLG	30	FAS	05

**7. All other data fields are single occurring. Only the number 01 following the mnemonic will be accepted.**

**8. \$\$CHG ACTIONS 0**

a. \$\$CHG is used, along with the TYP data entry to identify a MODIFICATION, RENEWAL or DELETION action.

b. When submitting a MODIFICATION, RENEWAL or DELETION action, it is extremely important to accurately indicate the proper GMF data field and corresponding occurrence number which the applicant desires to modify. FAILURE TO ACCURATELY INDICATE THE PROPER GMF DATA FIELD AND CORRESPONDING OCCURRENCE NUMBER WILL RESULT IN AN INCORRECT CHANGE.

c. When submitting a MODIFICATION action, it is possible to add another occurrence of a multiple occurring field to an existing record; in effect, change BLANKS to DATA. The applicant must, however, address the next blank GMF occurrence of the data field(s) to be modified. For example, if a GMF record contains two station classes (STC), emissions (EMS), and power (PWR), and a third occurrence of each is necessary, the applicant submits:

**\$\$CHG FAA 723409**  
**TYP01 M**  
**DAT01 810901**  
**EMS03 6KA3E**  
**STC03 MA**  
**PWR03 W10**

**9. \$\$MOD ACTIONS**

a. Modifications may also be submitted using the COMMAND \$\$MOD. This optional procedure allows the applicant to submit both

NEW and LISTED DATA in the same application, thus providing a means of comparison without having to refer to separate records. This procedure shall be used only with assignment records retrieved from the GMF in the Card Format, and re-submitted back to the NTIA/FA&IASD via electronic transmission or on magnetic discs or tape.

b. \$\$MOD actions require:

(1) Re-submission in Card Format;

(2) All **new data** be entered with an EQUAL SIGN (=) between the data field code occurrence number and the data;

(3) The Type of Action always be entered as TYP01=M; and,

(4) The date always be entered as DAT01=nnnnnn (date format is YYMMDD).

*Example:*

```

$$MOD A 810771
TYP01=M
DAT01=850828
CLA01 U
FRQ01 M168.625
BUR01 F3
STC01 MO
STC01=ML
EMS01 16K00F3E
PWR01 W5
PWR01=W25
NTS01 S362
NTS01= (in this case NEW data
        is blank--deleting
        listed data)
TME01 1
TME01=3
XSC01 NM
XAL01 NEW MEXICO
XRC02 RGNLOFFC
RSC01 NM
RAL02 NEW MEXICO
REM01 *NRM,00140,REGION 3 AIR
OPS
REM01=*NRM,00300,REGION 3
MOBILE
OPS
REM02 *EQS,LMS
REM03 *SYS,NATURAL RESOURCES
SUP01 FOR PROTECTION OF
NATIONAL
FOREST LANDS

```

### **SUP01=WILDFIRE COMMUNICATIONS**

10. Information for AGENCY USE, other than SECRET data, shall be provided after all other data are entered. The intervening statement FOR AGENCY USE must precede the data. The statement "FOR AGENCY USE" and subsequent data SHALL NEVER appear on magnetic disc or electronic submissions.

*Example:*

```

$$CHG AR 28306
TYP01 M
DAT01 791108
EMS03 6KA3E
RTN01 M
LFQ01 M238.5
FOR AGENCY USE
XSC01 VA
XAL01 NORFOLK

```

11. See Part 9.4, paragraph 2.b for rules on submission of SECRET data.

12. The following is a sample application.

```

$$ADD NTIA991234
TYP01 N
DAT01 850701
FRQ01 M123.4
CLA01 U
NET01 AT013
ICI01 C
RTN01 R
BUR01 1A2A
EXD01 891215
STC01 FX
EMS01 16KF3E
PWR01 K1
STC02 FL
EMS02 16KF3E
PWR02 W100
NTS01 S361
NTS02 S362
XSC01 MD
XAL01 GLEN BURNIE
XLA01 392530N
XLG01 0764501W
XAP01 H
XAZ01 045
XCL01 AA 123
XAD01 05GDIPOLE 00050H0100T
TME01 1

```

**RSC01 PA**  
**RAL01 PHILADELPHIA**  
**RRC01 DIV AX**  
**RLA01 400201N**  
**RLG01 0751502W**  
**ACL01 WBW 22**  
**RAP01 H**  
**RAZ01 225**  
**RAD01 10GHORN**  
**RSC02 DE**  
**RAL02 WILMINGTON AIRPORT**  
**RLA02 395010N**  
**RLG02 0753515W**  
**ACL02 OLD341**  
**RAP02 V**  
**RAZ02 ND**  
**RAD02 03GDIPOLE**  
**REM01 \*RAD, 0050R**  
**REM02 \*NRM, 00102, NET**  
**SUP01 THIS IS A SAMPLE**

## 9.8 PREPARATION OF A NEW OR NOTIFICATION ACTION

### 9.8.1 Introduction

Before submitting a NEW or NOTIFICATION action, read Part 9.7. The following index of data field codes, which are described in detail in Section 9.8.2, is provided for easy reference.

Codes	Section 9.8.2 Paragraph No.	Codes	Section 9.8.2 Paragraph No.
ACL	37	*JNT	39i
BIN	11	*LSB	39e
BUR	13	*LSR	39e
CDD	7	*LST	39e
CLA	6	*MEX	39v
DAT	3	*NRM	39m
EMS	16	*NTS	39k
EXD	14	*ORB	39q
FAS	79	*PRR	39n
FOI	41	*RAD	39d
FRQ	8	*RNT	39r
ICI	10	*RPT	39h
LSR	5	*SBW	39t
MSD	12	*SGN	39t
NET	9	*SNT	39p
NTS	18	*SYS	39u
PWR	17	*USA	39w

RAD	38	RLA	33
RAL	31	RLG	34
RAP	35	RRC	32
RAZ	36	RSC	30
REM	39	RTN	4
*AGN	39j	SER	1
*ARB	39f	SEX	40c
*ARR	39f	SPD	20
*ART	39f	SRS	40b
*CAN	39l	STC	15
*DOC	39g	SUP	80
*EBW	39t	TME	19
*EGN	39t	TYP	2
*ENT	39s	XAD	29
*EQR	39o	XAL	22
*EQS	39o	XAP	26
*EQT	39o	XAZ	27
*ESB	39e	XCL	28
*ESR	39e	XLA	24
*EST	39e	XLG	25
*FRB	39b	XRC	23
*FBE	39c	XSC	21
*FLN	39x		

### 9.8.2 Application Data Requirements

#### 1. SER--Applicant Serial Number (10 Characters-1 Occurrence)

a. This field is for the applicant's Serial Number (SER) of the application. This serial number becomes the unique identifier for the application on the FAS agenda and for the assignment record, when approved, in the GMF. Once an application is on the FAS agenda, serial numbers MAY NOT be altered. The Serial Number must ALWAYS be entered on the COMMAND ENTRY which is ALWAYS \$\$ADD for a NEW or NOTIFICATION action, \$\$CHG for a MODIFICATION, RENEWAL, or DELETION action, or \$\$MOD for MODIFICATION action. Each application shall bear a unique 10 character Agency Serial Number composed of:

(1) the applicant's name abbreviation in characters 1-4; the abbreviation shall be the same as shown in Annex G, Part 1. If the applicant's name abbreviation is less than 4 characters, leave characters 2-4 blank, as applicable.

(2) the last two digits of the current calendar year in characters 5 and 6, and

(3) a four-digit number to indicate for that year and agency the numerical sequence of the proposed assignment action in characters 7-10.

b. Each agency should start a new cycle of Serial Numbers for applications which are to be submitted on or after January 1 of each year.

c. On a joint application for a NEW action, insert the Serial Number for the agency that prepares the application. (Do not submit a joint application for a NOTIFICATION, MODIFICATION, RENEWAL or DELETION action.)

*Example:*

GSA 820153

## 2. TYP--Type of Action (1 Character--1 Occurrence)

Enter either the letter:

N--for a NEW action; or

F--for a NOTIFICATION action.

## 3. DAT--Date (6 Characters--1 Occurrence)

a. Enter the date in year, month, and day order on which the application is prepared by the applicant.

b. Use numeric characters only.

c. Leave no blanks.

*Example:*

DAT01 811225

## 4. RTN--Routine (1 Character--1 Occurrence)

a. This field is used to indicate that the frequency application is to appear in the *routine* portion of the FAS agenda. Leave this field blank if the application is to appear in the *regular* portion of the FAS agenda. Only one of the letters A, or M or R may be entered in the RTN field.

b. Enter the letter:

(1) A--if the assignment request is for consideration by the AAG (see Section 9.14.1), or

(2) M--if the assignment request is for con-

sideration by the MAG (see Section 9.14.2) or,

(3) R--if the assignment request is not to be considered by the AAG or MAG and:

(a) the application is a notification of a telecommunication laser; or

(b) the assignment will be for use during distress, safety and calling on frequency 156.8 MHz; or

(c) the assignment is being made pursuant to Part 7.12; or

(d) Note L192, L197, or L199 applies; or

(e) the assignment is made pursuant to Section 8.3.24; or

(f) the assignment will be for speed meter use on frequency 10525 MHz or 24150 MHz; or

(g) there will be no increase in the probability of harmful interference.

c. If the ROUTINE field is left blank or contains a character other than A, M or R, the application will appear in the *regular* portion of the agenda unless one of the following criteria is met:

(1) if the assignment request is to be considered by the AAG or MAG, the letter A or M, as applicable, will be automatically entered in the ROUTINE field; or

(2) if the assignment request:

(a) is for 156.8 MHz; or

(b) includes one or more of the following Notes (NTS):

L192	S160
L197	S279
L199	S348

or,

(c) is for speed meter use on frequency 10525 MHz or 24150 MHz; or,

(d) is for the frequency band 401.7-402.1 MHz and includes the following Note (NTS): S594

the letter R will be automatically entered in the ROUTINE field.

## 5. LSR--List Serial Number (10 Characters--1 Occurrence)

a. This field is to be used only on NOTIFICATION actions when an agency notifies the bringing into use of a frequency by a particular station or stations under the authority of an authorized GROUP assignment.

b. Insert the Serial Number of the GROUP assignment as it is shown in the Government Master File (GMF). Do not close up blank spaces which appear in characters 2-4 of the recorded GMF Agency Serial Number.

#### 6. CLA--Classification (1 Character--1 Occurrence)

a. This field is for the security classification of the assignment as determined in accordance with Executive Order 12958 of April 20, 1995.

b. Insert only one of the following codes in this field. ASSIGNMENTS ARE NEVER CLASSIFIED HIGHER THAN CONFIDENTIAL.

- (1) U--Unclassified
- (2) C--Confidential

#### 7. CDD--Declassification Date (6 Characters - 1 Occurrence)

a. Complete this field for every application on which the CLA data field contains the letter C.

b. Enter the letters **DE** in the first two characters.

c. Beginning in character three,

(1) enter the year and month of the declassification date, in year and month (YYMM) order (The assignment will be automatically declassified on the last day of that month.). (If the declassification date has been extended beyond 10 years from the initial classification date, an entry is also required in the Circuit Remarks field \*CLF); or,

(2) enter the letter **X**, immediately followed by from one to three numbers, in numerical sequence, that correspond to the applicable exemption categories listed in E.O. 12958, Section 1.6.d.; or,

(3) enter **25X**, immediately followed by a number that corresponds to the applicable exemption category listed in E.O. 12958,

Section 1.6.d. for those assignments that are exempt from the 25 year automatic declassification rule for permanently valuable information. (For all assignments not in the declassification exemption category 25X1, the date for declassification shall be included in the Circuit Remarks field \*CDE.); or,

(4) enter **OADR** for those assignments that are classified derivatively based on source documents for which the declassification instructions are marked "Originating Agency's Determination Required," or its acronym "OADR". An entry of OADR in this data field requires an entry in the Circuit Remarks field \*CLF.

*Examples:*

CDD01 DE0603  
CDD01 DEX358  
CDD01 DE25X1  
CDD01 DEOADR

#### 8. FRQ--Frequency (13 Characters--1 Occurrence)

Enter either a *SPECIFIC OPERATING FREQUENCY* (see paragraph 8.b.) or the lower limit of a *FREQUENCY BAND ASSIGNMENT* (see paragraph 8.c.) in accordance with the following instructions:

a. Composing the FRQ Entry

(1) In the first character enter one of the following codes to designate the category in which the frequency is being expressed:

K--for kiloHertz  
M--for MegaHertz  
G--for GigaHertz  
T--for TeraHertz

*Note: For frequencies expressed in kiloHertz, the applicant may optionally enter the letter K in character 1 or immediately begin entering the frequency in character 1 (see examples).*

(2) Express the frequency in:

kiloHertz (kHz) thru 29999.999999 kHz,  
MegaHertz (MHz) from 30 MHz thru  
99999.999999 MHz,

GigaHertz (GHz) from 100 GHz thru  
2999.999999 GHz, and

TeraHertz (THz) at 3 THz and above.

(3) Use a decimal point only if there is a significant (nonzero) digit to the right of the decimal.

(4) If a decimal point is used, enter no more than six significant digits to the right of the decimal.

b. Requesting *SPECIFIC OPERATING FREQUENCIES*

(1) A “*SPECIFIC OPERATING FREQUENCY*” (also referred to as “assigned frequency” or “authorized frequency”) identifies the center of that portion of the frequency spectrum occupied by the emitted signal. The lower and upper limits of the *ASSIGNED FREQUENCY BAND*, see Section 6.1.1, Paragraph 44, are determined by:

(a) Subtracting from the *SPECIFIC OPERATING FREQUENCY* one-half the necessary bandwidth shown in the Emission field plus the absolute value of the frequency tolerance as derived from Chapter 5; and

(b) Adding to the *SPECIFIC OPERATING FREQUENCY* one-half the necessary bandwidth plus the absolute value of the frequency tolerance as derived from Chapter 5.

The result of this calculation determines the amount of spectrum which may be occupied by a *SPECIFIC OPERATING FREQUENCY*.

(2) A *SPECIFIC OPERATING FREQUENCY* shall always be entered in the FRQ field unless the transmitting station employs one of the techniques described in paragraph 8.c. below.

*Examples:*

14495.5--for 14495.5 kHz, or  
K14495.5--for 14495.5 kHz  
M165.0125--for 165.0125 MHz  
G138.25--for 138.25 GHz

c. Requesting *FREQUENCY BAND ASSIGNMENTS*.

(1) Certain operations may necessitate the assignment of a range of frequencies in lieu of a *specific operating frequency*; this *range* is known as a “*FREQUENCY BAND ASSIGNMENT*.” *FREQUENCY BAND ASSIGNMENTS* permit the transmitting station to operate on any specific frequency so located within the *range* that the necessary bandwidth plus twice the tolerance does not extend beyond the lower and upper limits shown in the Circuit Remarks \*FRB field. See paragraph 8.b.(1) (a) and (b), for the method used to calculate the amount of spectrum which may be occupied by any specific emitted signal within the *range* of frequencies authorized by a *FREQUENCY BAND ASSIGNMENT*.

(2) Except as indicated in paragraph 8.c. (3), a *FREQUENCY BAND ASSIGNMENT* shall only be requested when one or more specific frequency assignments will not satisfy the requirement.

(3) *FREQUENCY BAND ASSIGNMENTS* are normally authorized only for the following:

(a) Transmitters which automatically sweep through all frequencies in a band.

(b) Radiosonde transmitters operating in either of the bands:

400.15-406.00 MHz      1670.00-1700.00 MHz

(c) Frequency agile radar beacons (racon) operating in either of the bands:

2900-3100 MHz      9300-9500 MHz

(d) Transmitters which use automatic frequency selection based upon changing propagation conditions along the transmission path.

(e) Transmitters which automatically pause at fifteen or more *specific operating frequencies* within a band.

(f) Operations which require the use of fifteen or more *specific operating frequencies*

within a band for research, development, test and/or evaluation purposes.

(g) Operations which involve a multitude of mobile radiolocation or radionavigation transmitters. Whenever possible, at the option of the applicant, operational frequencies may be recorded in the CIRCUIT REMARKS \*AGN sub-field.

(h) Tactical and/or Training assignments above 30 MHz which require the use of fifteen or more *specific operating frequencies* within a band.

(i) Operations devoted exclusively to electronic warfare (EW), electronic countermeasures (ECM), and/or electronic counter-countermeasures (ECCM).

(4) Requests for *FREQUENCY BAND ASSIGNMENTS* which do not meet the above criteria will be considered by the FAS on a case-by-case basis.

(5) Using the procedures in paragraph 8a, insert the frequency which identifies the lower limit of the *FREQUENCY BAND ASSIGNMENTS*.

(6) All applications for *FREQUENCY BAND ASSIGNMENTS* must include:

(a) A dash in the Frequency Band Indicator (BIN) field, and

(b) An entry in the Circuit Remarks \*FRB field.

d. Special Coordination Requirements.

(1) If the frequency requires coordination under the provisions of the Sections (as applicable) in Part 8.3 or Part 9.14, the applicant shall, insofar as practicable, complete such coordination prior to submitting the application to the FAS.

## **9.NET--Net Control (5 Characters--1 Occurrence)**

a. At the option of the applicant, this field may be used to identify within the applying agency:

- (1) a specific user; or
- (2) a command; or
- (3) an activity; or
- (4) a unit; or

(5) a project; etc.

b. The data may be alpha, numeric or alpha-numeric.

## **10. ICI--International Coordination Identifier (1 Character--1 Occurrence)**

a. When Canadian coordination is required by the IRAC in accordance with Part 3.4, enter the letter C in this field. The letter C should be entered on the application by the submitting agency; however, it will be entered by the Canadian Coordination computer program if this field is left blank and the application meets the criteria of Part 3.4.

b. When Canadian coordination is not required by the IRAC but the submitting agency determines it to be beneficial to coordinate with Canada, *the submitting agency must* enter the letter C in this field in order to initiate coordination action.

c. If the submitting agency desires Mexican coordination, enter the letter M in this field.

d. If both Canadian and Mexican coordination are desired, enter the letter B in this field.

e. When Canadian coordination is not required by Part 3.4 and neither Canadian or Mexican coordination are desired, leave this field blank.

*Example:*

ICI01 C

f. The ICI field is also used to identify the U.S. Federal Government coordination channels for those Canadian assignments along the U.S.-/Canada border that have been included in the GMF for electromagnetic compatibility analysis purposes:

D = through NTIA with FAS member agencies

F = through the FAA

J = through the DoD's Joint Chiefs of Staff (JCS)

U = no indication of coordination

g. When Canadian coordination is required by the FCC for the 932.5 - 935.0 or 941.5 - 944.0 MHz bands in accordance with Part 3.4, enter

the letter A in this field. The letter A should be entered on the application by the submitting agency; however it will be entered by the Canadian Coordination computer program if this field is left blank and the application meets the criteria of Part 3.4.

### 11. BIN--Frequency Band Indicator (1 Character--1 Occurrence)

a. Whenever a *frequency band assignment* is requested (see Section 9.8.2, paragraph 8.c.) enter a dash (-) in this field.

b. If a *specific operating frequency* is requested, leave this field blank.

*Example:*

BIN01 --

### 12. MSD--Missing Data Indicator (1 Character--1 Occurrence)

a. Enter the letter Z for all applications which would be classified SECRET if all required data were provided.

b. If the letter Z does not apply, leave this field blank.

*Example:*

MSD01 Z

**13. BUR--Bureau (4 Characters--1 Occurrence)** a. At the option of the applicant, this field may be used to identify an organizational subunit of the applying agency.

b. If used, this field must contain an abbreviation from Annex G, Part 1.

### 14. EXD--Expiration Date (6 Characters--1 Occurrence)

a. This field is for the year, month and day on which a TEMPORARY or TRIAL assignment is to expire (see Part 9.6)

b. To compose the EXD entry:

(1) Insert in the first two characters the last two digits of the year; and

(2) Insert in characters three and four a two-digit number (01 through 12) for the month.

(3) Insert in characters five and six a two digit number (01 to 31) corresponding to the day of the month the application is to expire.

c. For TEMPORARY assignments the date shall not exceed five years.

d. For TRIAL assignments, the date shall not exceed two years.

e. For GROUP assignments used for planning purposes (NTS S321), the date shall not exceed three years.

f. Leave blank for a REGULAR assignment.

*Example:*

EXD01 890615

### 15. STC--Station Class (6 Characters--20 Occurrences)

a. This field is for the Station Class symbol(s) as shown in Sections 6.1.2 (alphabetical by classes) and 6.1.3 (alphabetical by symbols). Enter only one such symbol per entry.

b. Each entry in the STATION CLASS field must also contain a corresponding entry in the POWER field and the EMISSION field.

c. The suffix "R" shall be added to the class of station (STC) symbol only if the station is to be used primarily as a *repeater* in the bands:

29.89-50.00 MHz  
138.00-144.00 MHz  
148.00-149.90 MHz  
150.05-150.80 MHz  
162.00-174.00 MHz  
406.10-420.00 MHz

For this purpose, a *repeater* consists of a radio transmitter, a radio receiver and coupling between the two so as to retransmit unchanged in intelligence the received signal.

### 16. EMS--Emission Designator (14 Characters--20 Occurrences)

The EMISSION DESIGNATOR consists of the *necessary bandwidth* and *emission classi-*

fication symbols.

a. The amount of radio spectrum which may be occupied by an authorized frequency assignment does not extend beyond:

(1) the ASSIGNED FREQUENCY BAND (see Section 6.1.1) which is determined by:

(a) subtracting from the *specific operating frequency* 1/2 the *necessary bandwidth* plus the absolute value of the frequency tolerance as derived from Chapter 5; and,

(b) adding to the *specific operating frequency* 1/2 the *necessary bandwidth* plus the absolute value of the frequency tolerance as derived from Chapter 5; or

(2) the lower and upper limits shown in the Circuit Remarks \*FRB field for FREQUENCY BAND ASSIGNMENTS.

b. The *authorized use* is determined by the designated:

(1) type of modulation;

(2) nature of the signal(s) modulating the main carrier; and

(3) type of information to be transmitted.

c. An EMISSION DESIGNATOR must be entered for each type of transmission. For example, a 6KA3E EMISSION DESIGNATOR does not include authority for any other type of transmission such as CW or tone modulated telegraphy.

d. The EMISSION DESIGNATOR consists of the following:

(1) *Necessary bandwidth.*

(a) See Annex J for methods used to calculate *necessary bandwidths*.

(b) Doppler Shift shall not be included in the frequency tolerance or necessary bandwidth; however, at the option of the applicant, Doppler Shift may be shown as an extra item of information in the SUPPLEMENTARY DETAILS field.

(2) *Emission classification symbols:*

(a) First symbol--Indicates the type of modulation of the main carrier.

(b) Second symbol--Indicates the nature of signal(s) modulating the main carrier.

(c) Third symbol--Indicates the type of

information to be transmitted.

(d) Fourth symbol--Indicates the details of the signal (Optional--recommend use when applicable).

(e) Fifth symbol--Indicates the nature of multiplexing (Optional--recommend use when applicable).

e. The EMISSION DESIGNATOR shall be entered according to the following rules:

(1) *Necessary Bandwidth.* To express the *necessary bandwidth* portion of the EMISSION DESIGNATOR, enter a maximum of five numerals and one letter. The letter occupies the position of the decimal point and represents the unit of bandwidth as follows:

H for Hertz

K for kiloHertz

M for MegaHertz

G for GigaHertz

Fractional bandwidths may be expressed to a maximum of two decimal places following the letter. The first character of the *necessary bandwidth* shall always be greater than zero unless the *necessary bandwidth* is less than 1 Hertz in which case the first character shall be the letter H. Express the *necessary bandwidths* according to the following:

(a) *Necessary bandwidths* between .01 and 999.99 Hz shall be expressed in Hertz using the letter H in lieu of the decimal; e.g., 15H is 15Hz of bandwidth; 15H01 is 15.01 Hz of bandwidth.

(b) *Necessary bandwidths* between 1.00 and 999.99 kHz shall be expressed in kiloHertz using the letter K in lieu of the decimal; e.g., 2K is 2 kHz of bandwidth; 2K85 is 2.85 kHz of bandwidth.

(c) *Necessary bandwidths* between 1.00 and 999.99 MHz shall be expressed in MegaHertz using the letter M in lieu of the decimal; e.g., 6M is 6 MHz of bandwidth; 6M25 is 6.25 MHz of bandwidth.

(d) *Necessary bandwidths* between 1.00 and 999.99 GHz shall be expressed in GigaHertz using the letter G in lieu of the decimal; e.g.,

10G is 10 GHz of bandwidth; 10G05 is 10.05 GHz of bandwidth.

(2) *Emission Classification Symbols.* Enter the basic emission designator of three symbols, and if desired, two optional additional symbols, as derived from the following:

(a) First symbol--designates the type of modulation of the main carrier:

---

Symbol	Type of Emission
--------	------------------

---

#### UNMODULATED

N . . . Emission of an unmodulated carrier.

#### AMPLITUDE-MODULATED

Emission in which the main carrier is amplitude-modulated (including cases where sub-carriers are angle-modulated):

A . . . Double-sideband  
 B . . . Independent sidebands  
 C . . . Vestigial sideband  
 H . . . Single-sideband, full carrier  
 J . . . Single-sideband, suppressed carrier  
 R . . . Single-sideband, reduced or variable level carrier

---

Symbol	Type of Emission
--------	------------------

---

#### ANGLE-MODULATED

Emission in which the main carrier is angle-modulated:

F . . . Frequency modulation  
 G . . . Phase modulation

#### AMPLITUDE-MODULATED AND ANGLE-MODULATED

D . . . Emission in which the main carrier is amplitude-modulated and angle-modulated either simultaneously or in a preestablished sequence.

#### PULSE

Emission of pulses:

(Emissions, where the main carrier is directly modulated by a signal which has been coded into quantized form (e.g., pulse code modulation) shall be designated as either an emission in which the main carrier is amplitude-modulated, or an emission in which the main carrier is angle-modulated).

P . . . Sequence of unmodulated pulses.

A sequence of pulses:

K . . . Modulated in amplitude  
 L . . . Modulated in width or duration  
 M . . . Modulated in position or phase  
 Q . . . Carrier is angle-modulated during the period of the pulse  
 V . . . A combination of the foregoing or other means

#### COMBINATION

W . . . Cases not covered above, in which the emission

consists of the main carrier modulated, either simultaneously or in a combination of two or more of the following modes: amplitude, angle pulse.

X<sup>1</sup> . . . Cases not otherwise covered.

---

<sup>1</sup>A full explanation for the selection of the letter X shall be provided in the Supplementary Details (SUP) unless the application is for a non-directional beacon in the bands 190-435 and 510-535 kHz.

(b) Second symbol--designates the nature of signal(s) modulating the main carrier:

---

S	y	m	b	o	l
---	---	---	---	---	---

---

. . . Type of Emission

0 . . . No modulating signal.  
 1 . . . A single channel\* containing quantized or digital signals without the use of a modulating subcarrier. (This excludes time-division multiplex.)  
 2 . . . A single channel\* containing a quantized or a digital signal with the use of modulating subcarrier.  
 3 . . . A single channel\* containing an analogue signal.  
 7 . . . Two or more channels\* containing quantized or digital signals.  
 8 . . . Two or more channels\* containing analogue signals.  
 9 . . . A composite system with one or more channels\* containing quantized or digital signals, together with one or more channels containing analogue signals.  
 X<sup>1</sup> . . . Cases not otherwise covered.

---

\*In this context, the word "Channel(s)" refers to the radio frequency (RF) channel.

<sup>1</sup>A full explanation for the selection of the letter X shall be provided in the Supplementary Details (SUP) unless the application is for a non-directional beacon in the bands 190-435 and 510-535 kHz.

(c) Third symbol--designates the type of information to be transmitted (In this context the word "information" does not include information of a constant, unvarying nature such as provided by standard frequency emissions,

continuous wave and pulse radars, etc.)

Symbol	Type of Emission
N . . .	No information transmitted.
A . . .	Telegraphy--for aural reception.
B . . .	Telegraphy--for automatic reception.
C . . .	Facsimile.
D . . .	Data transmission, telemetry telecommand; (the symbol D indicates that data telemetry, or telecommand information is being transmitted individually or, that any combination of the three are being transmitted simultaneously. If any combination is being transmitted simultaneously, one of the multichannel symbols, 7, 8, or 9, must be used for the second symbol.)
E . . .	Telephony (including sound broadcasting).
F . . .	Television (video).
W . . .	Combination of the above. (Use only for multi-channel systems having the capability of transmitting all information simultaneously).
X <sup>1</sup> . .	Cases not otherwise covered.

<sup>1</sup>A full explanation for the selection of the letter X shall be provided in the Supplementary Details (SUP) unless the application is for a non-directional beacon in the bands 190-435 and 510-535 kHz.

(d) Fourth symbol--designates the details of signal(s):

Symbol	Type of Emission
A . . .	Two-condition code with elements differing in numbers and/or durations.
B . . .	Two-condition code with elements of the same number and duration without error-correction.
C . . .	Two-condition code with elements of the same number and duration with error-correction.
D . . .	Four-condition code in which each condition represents a signal element (of one or more bits).
E . . .	Multi-condition code in which each condition represents a signal element (of one or more bits).
F . . .	Multi-condition code in which each condition or combination of conditions represents a character.

G . . . Sound of broadcasting quality (monophonic).  
H . . . Sound of broadcasting quality (stereophonic or quadrasonic).

Symbol	Type of Emission
J . . .	Sound of commercial quality (excluding categories defined for symbols K and L below).
K . . .	Sound of commercial quality with the use of frequency inversion or band-splitting.
L . . .	Sound of commercial quality with separate frequency-modulated signals to control the level of demodulated signal.
M . . .	Monochrome.
N . . .	Color.
W . . .	Combination of the above.
X . . .	Cases not otherwise covered.

(e) Fifth symbol--designates the nature of multiplexing:

Symbol	Type of Emission
N . . .	None.
C . . .	Code-division multiplex (This includes band-width expansion techniques.)
F . . .	Frequency-division multiplex.
T . . .	Time-division multiplex.
W . . .	Combination of frequency-division multiplex and time-division multiplex.
X . . .	Other types of multiplexing.

*Examples:*

Designator	Type of Emission
N0N	Continuous wave.
1K24F1B	1.24 kHz necessary bandwidth for frequency modulated single channel telegraphy.
16KF3EJN	16 kHz necessary bandwidth for commercial telephony.

f. Each entry in the EMISSION (EMS) field must also contain a corresponding entry in the POWER (PWR) and STATION CLASS (STC) fields.

**17. PWR--Power (12 Characters--20 Occur-**

**rences)**

a. This field is for the transmitter output power NORMALLY supplied to the antenna transmission line and is entered according to the emission designator as follows:

(1) *Carrier* power (pZ) for A3E sound broadcasting in the Broadcasting Service.

(2) *Mean* power (pY) for other amplitude modulated emissions using unkeyed full carrier, and for all frequency modulated emissions.

(3) *Peak envelope* power (pX) for all emission designators other than those referred to in (1) and (2) above, including C3F television (video only).

b. For different emission designators, the relationships between *peak envelope*, *mean*, and *carrier* power, under the conditions of normal operation and of no modulation, are contained in Recommendation No. 326-4, pages 333 through 348, Volume I, Documents of the XV Plenary Assembly, CCIR, Geneva, 1982.

c. The power shall be entered as follows:

(1) In character one enter the unit of power as:

W--for Watt  
K-- for Kilowatt  
M-- for Megawatt  
G--for Gigawatt

(a) Enter W and show power in watts when less than 1 kilowatt.

(b) Enter K and show power in kilowatts for 1 to 999.99999 kilowatts, inclusive.

(c) Enter M and show power in Megawatts for 1 to 999.99999 Megawatts, inclusive.

(d) Enter G and show power in Gigawatts when 1 Gigawatt and above.

(2) Insert a decimal point only if there is a significant nonzero value to the right of the decimal point.

(3) The power may be entered to a maximum of five characters to the right of the decimal.

*Examples:*

W.5 for 1/2 watt

K2.5 for 2 1/2 kilowatts

d. Each entry in the POWER (PWR) field must also contain a corresponding entry in the EMISSION (EMS) and STATION CLASS (STC) fields.

## **18. NTS--Record Notes (4 Characters--10 Occurrences)**

a. The RECORD NOTES apply to the entire frequency assignment; therefore, a specific RECORD NOTE shall be entered only once in this field. Agencies may enter RECORD NOTES as applicable during the preparation of applications, or RECORD NOTES may be added at the FAS meeting.

b. Enter, as applicable, the appropriate RECORD NOTE(S) from the lists shown in Annex A.

c. The types of RECORD NOTES which may be entered are:

(1) COORDINATION (C\_\_\_\_) --Indicates specific coordination requirements.

(2) EMISSION (E\_\_\_\_) --Indicates emission limitations.

(3) LIMITATION (L\_\_\_\_) --Indicates operational limitations.

(4) PRIORITY (P\_\_\_\_) --Indicates assignment precedence in relation to other assignments.

(5) SPECIAL (S\_\_\_\_) --Indicates special conditions and/or amplifying data.

d. All assignment requests meeting one or more of the following criteria must indicate the applicable NOTE(S):

(1) For a station in the domestic FIXED service (see Section 8.2.11), enter, as appropriate:

C078	S148	S358
L012	S206	S359
S012	S208	S360

(2) Enter the applicable NOTE(S) from the S500-S799 series if the assignment is for:

(a) a station in a Space radiocommunication service; or

(b) an experimental station to be operated in the manner of a station in a Space radiocommunication service; or

(c) an experimental station to be used for the static test (prelaunch ground-to-ground checkout) of communication equipment to be used in a Space radiocommunication service; or

(d) a station to be used to support a Space mission.

(3) Enter S321 or S322 for an assignment being made that is subject to the provisions of Section 9.6.5.

(4) Enter S348 if an assignment is for communications with Non-Government Citizens Band (CB) stations and is made pursuant to Section 8.3.24.

e. For NOTIFICATION actions:

(1) Enter S160 or S165 if the assignment is being made under the authority of Part 7.12 or Section 7.5.2.

(2) Enter S141 if the assignment is to a transmitting station located outside the United States and Possessions.

(3) Enter the NOTES which were applied to the GROUP assignment (see Section 9.6.5); except that NOTES S149, S321, and S322 shall never be entered on the NOTIFICATION action. If the GROUP assignment bears either S170 or S171, these NOTES may be inserted or omitted at the option of the applicant.

f. Enter the NOTE S366 on applications for an area assignment whose parameters indicate that operations are outside the Canadian Zone but are suspect of Canadian Coordination or when:

(1) the parameters provided on the application meet the requirements for Canadian coordination as specified in Part 3.4; and

(2) the Transmitter Antenna Location (XAL) field contains an *area* that is within or partially within the U.S./Canadian Coordination Zone (see Part 3.4); and

(3) the Transmitter Antenna Latitude and Longitude (XLA and XLG) fields are blank on

the application; but

(4) operations will be south of the U.S./Canada Coordination Zone; or

(5) power used while operating in the Zone will not exceed 5 watts.

## 19. TME--Time (4 Characters--1 Occurrence)

a. This field is for the period of time during which it is intended that the frequency will be either guarded (monitored) or used for transmission. The period indicated is not a limitation or restriction, but rather the normal period of time during which the frequency is required to satisfy the operational requirement described in Supplementary Details.

b. The entry shall indicate two characteristics.

(1) The first characteristic indicates whether the frequency is required occasionally or regularly during the period of a year. Examples of occasional use, without reference to priority, include construction projects, seasonal projects, major public events, civil disturbances, natural disasters, certain uses during space flights, and field surveys.

(2) The second characteristic indicates whether the frequency is required only during the normal workweek or for additional periods of the week. A normal workweek is considered to be the period between 6 AM and 6 PM, Monday through Friday.

c. Except for assignments containing:

(1) An Experimental station class; or

(2) Either of the Notes S321 or S322, this field shall be completed on applications for assignments in the bands:

29.89-50.0

(limited to exclusive Government bands in this range)

138.00-144.0

148.00-149.9

150.05-150.8

162.00-174.0

406.10-420.0 MHz.

d. In all other bands above 29.89 MHz, this field shall be completed on applications with US, USA, or USP in the Transmitter State/

Country (XSC) field except those containing S322 in the NOTES (NTS) field.

e. This field may be completed on other applications at the option of the applicant.

f. The period of time shall be indicated by use of one of the numbers 1 through 4, entered in the first character of the TIME (TME) field as follows, enter the number:

1--for regular/not limited to workweek; or  
2--for regular/workweek; or  
3--for occasional/not limited to workweek;  
or 4--for occasional/workweek.

g. In all bands below 29.89 MHz this field may also be used, at the option of the applicant, to indicate the period of the day that a circuit is in operation. Enter one of the following, as applicable:

H24--for 24-hour operation,  
HJ--for day operation,  
HN--for night operation,  
HT--for transition period operation,  
HX--for intermittent operation  
throughout the 24-hour day or no specific working hours.

Note that this entry applies to the period of operation of the circuit, not the period of operation of an individual frequency. If one of these symbols is entered in this field with one of the figures 1 through 4, the applicable figure is entered first.

## **20. SPD--Power Density (4 Characters--1 Occurrence)**

a. On applications for assignments to Earth or Space stations, or to Terrestrial stations (including experimental stations) employing Earth or Space station techniques, insert the maximum power density per Hertz (in dBW) supplied to the antenna.

(1) For frequencies below 15 GHz, the power shall be averaged over the worst 4 kHz band; for frequencies at 15 GHz and above, the

power shall be averaged over the worst 1 MHz band. The worst 4 kHz or 1 MHz band are defined as that 4 kHz or 1 MHz that has the highest power density within the assigned *necessary bandwidth*.

(2) The spectrum power density may be determined using the following formula:

$$\text{SPD} = 10 \text{ LOG PWR (watts)} - 10 \text{ log BDW (Hertz)}$$

PWR = power as expressed in paragraph 17;

BDW = Necessary Bandwidth in paragraph 16; however, for use in this formula the BDW must be converted to hertz.

b. For negative values insert a dash in character one.

c. For positive values insert a zero in character one.

d. For values less than 10, insert a zero in characters two and three.

e. For values 10 to 99 inclusive, insert a zero in character two.

### *Examples:*

SPD01 -008 (The maximum power density per Hertz is -8 dBW/Hz.)

SPD01 0001 (The maximum power density per Hertz is 1 dBW/Hz.)

## **21. XSC--Transmitter State/Country (4 Characters--1 Occurrence)**

a. Using one of the geographical abbreviations (State, Country, or Area) as shown in Annex G, Part 2, insert the abbreviation of the State, Country, or Area in which the site of the transmitting station is located.

b. If the State, Country, or Area in which the site of the transmitting station is located is classified SECRET, insert XXXX in this field.

c. For a station on board a satellite in space, insert SPCE.

d. For emanations from a natural or cosmic origin intended for reception by Passive Sensor or Radio Astronomy stations, insert RCVR.

*Example:*

XSC01 CO for Colorado

## **22. XAL--Transmitter Antenna Location (24 Characters--1 Occurrence)**

a. This field is for the name of the city or other geographical subdivision in which the site of the transmitting antenna is physically located. A major installation, such as Dallas-Fort Worth International Airport or Andrews AFB, is considered to be a city or other geographical subdivision. In certain cases non-geographical data are used.

b. In certain cases it may be necessary to describe an *area of operation* for which no specific name can be applied. For locations described as an *area of operation*, it shall be recognized that transmissions might not occur in every square kilometer of the *area* indicated, and the *area* described might overlap into States that are not shown in the transmitter STATE/COUNTRY field.

c. Such *areas* may be described:

(1) as a radius in kilometers extending from a given location;

*Example:*

In the case of transmissions by one or more mobile stations located at any point within 80 kilometers of Dallas, insert DALLAS in this field and a radius in the CIRCUIT REMARKS \*RAD field; or

(2) by the use of geographical coordinates in Circuit Remarks.

*Example:*

In the case of transmissions by one or more mobile stations in the area south of 33 degrees N in the State of Arizona, insert Arizona in this field and the data pertaining to the coordinates in the CIRCUIT REMARKS field. An area of operation within several States also may be described in this field as US or USA with the in-

cluded or excluded States being shown in the CIRCUIT REMARKS field. Similarly, USP may be used if the area includes a Possession.

d. While the data inserted normally shall be geographical names or descriptions, exceptions may be made for experimental operations, mobile operations where the XSC and XAL fields are identical, or for space operations. The following rules apply:

(1) For transmission by an experimental station, other than one in space, or to a mobile station having identical XSC and XAL fields, words such as AIRCRAFT, BALLOONS, or SHIPS may be used as appropriate.

(2) For transmission by a station aboard a geostationary satellite, insert GEOSTATIONARY.

(3) For transmission by a station aboard a nongeostationary satellite, insert NONGEOSTATIONARY.

(4) For transmission by a station located on a natural object in space, insert the name of the object, e.g., MOON.

(5) For transmission by a station aboard a space vehicle designed for operation in deep space (beyond the moon) where earth orbital data are irrelevant, insert DEEP SPACE followed by planet (s) name, or PROBE, for those vehicles that do not orbit other planetary objects.

(6) For emanations from a natural or cosmic origin intended for reception by Passive Sensor or Radio Astronomy stations, insert RCVR.

e. Entries in this field are limited to ALPHA and NUMERIC characters.

## **23. XRC--Transmitter Control (8 Characters--1 Occurrence)**

This field is optional and is primarily for the name of the facility that controls, either electrically or administratively, the transmitting station; however, other similar data may be inserted. If the name exceeds eight characters, abbreviate.

#### **24. XLA--Transmitter Antenna Latitude (7 Characters 1 Occurrence)**

a. Insert two characters each for the degrees, minutes, and seconds of the latitude of the site named in the TRANSMITTER ANTENNA LOCATION (XAL) field. Insert leading zeros for degrees, minutes, and seconds as required. Seconds shall be provided whenever possible; however, if it is impracticable to obtain the seconds, insert XX in the spaces provided for seconds.

b. Leave this field blank if:

(1) The site named in the TRANSMITTER ANTENNA LOCATION (XAL) field is an *area*, see Section 9.8.2, paragraph 22.c.(2) for which coordinates cannot be applied, e.g., Chicago District; or,

(2) If nongeographical data are used, e.g., AIRCRAFT.

c. For a station aboard a Geostationary satellite, insert 000000N.

d. For a station aboard a Nongeostationary satellite or a Deep Space vehicle, leave this field blank.

e. Insert N for North or S for South latitude in the last space as applicable.

*Example:*

XLA01 385351N

#### **25. XLG--Transmitter Antenna Longitude (8 Characters--1 Occurrence)**

a. Insert in degrees (3 characters), minutes (2 characters) and seconds (2 characters), the longitude of the site named in the TRANSMITTER ANTENNA LOCATION (XAL) field. Insert leading zeros for degrees, minutes, and seconds as required. Seconds shall be provided whenever possible; however, if it is impracticable to obtain the seconds, insert XX in the spaces provided for seconds.

b. Leave this field blank if:

(1) The site named in the TRANSMITTER ANTENNA LOCATION (XAL) field is an *area* for which coordinates cannot be applied, e.g., Chicago District; or,

(2) If nongeographical data are used, e.g., AIRCRAFT.

c. For a station aboard a Geostationary satellite, insert the longitudinal position of the satellite in degrees (3 characters) and minutes (2 characters) East or West longitude. In this case always enter 00 in the seconds portion of this field. Use leading zeros as required.

d. For a station aboard a Non-geostationary satellite, or a Deep Space vehicle, leave this field blank.

e. Insert E for East or W for West longitude in the last space as applicable.

*Example:*

XLG01 0770133W

#### **26. XAP--Transmitter Antenna Polarization (3 Characters--1 Occurrence)**

a. Transmitter antenna polarization is required on applications:

(1) for assignments above 1000 MHz that must be coordinated by the IRAC with the Canadian Department of Communications pursuant to Section 3.4.6, Appendices 3 and 4 of Arrangement D; or

(2) for transmitting Earth or Terrestrial stations (including experimental stations) employing Earth station techniques; or

(3) for transmitting Space or Terrestrial stations (including experimental stations) using Space station techniques;

(4) for assignments to TERRESTRIAL STATIONS at 420 MHz and above.

b. Transmitter Antenna Polarization is not required on applications for:

(1) Experimental stations except as indicated in 26.a.(2) and (3);

(2) Mobile stations;

(3) Portable stations;

(4) Radiolocation mobile stations;

(5) Radionavigation mobile stations;

(6) Transportable stations;

(7) *Group* assignments;

(8) A period of six months or less;

(9) Meteorological Aids in the 1660-1700 MHz band;

(10) TACAN/DME stations in the 960-1215 MHz band;

(11) Aeronautical Telemetry stations in the 1435-1535, 2200-2290 and 2310-2390 MHz bands.

c. This field may be completed on other applications at the option of the applicant.

d. If more than one antenna is to be used, insert the polarization of the antenna to be used most frequently; however, for a space station, antenna polarization may be listed for up to three antennas, provided they are entered in the same sequence as the antenna data entered in the TRANSMITTER ANTENNA DIMENSIONS (XAD) field.

e. Insert one of the following letters or combination of letters to indicate the antenna(s) polarization:

D--Rotating  
E--Elliptical  
F--45 degrees  
H--Horizontal  
J--Linear  
L--Left Hand Circular  
R--Right Hand Circular  
S--Horizontal and Vertical  
T--Right and Left hand Circular  
V--Vertical  
X--Other

*Examples:*

XAP01 V (Vertically polarized transmissions)

XAP01 FJL (45 degrees, Linear, and Left Hand Circular polarized transmissions for three space station antennas)

**27. XAZ--Transmitter Antenna Orientation (3 Characters--1 Occurrence)**

a. TERRESTRIAL STATIONS: On applications for assignments to Terrestrial stations complete this field in accordance with the

procedures given below for the applicable frequency range. Enter one of the following as applicable:

(1) For directive antennas oriented in a fixed direction, enter a three-digit number indicating the azimuth of the main antenna lobe in degrees east of True North, using leading zeros as necessary and 360 for True North.

(2) For stations using on-site passive reflectors, displaced vertically from the primary antenna or installed on the same antenna farm as the primary antenna (normally within 150 meters of the transmitter), enter the horizontal azimuth of the on-site passive reflector.

(3) S--For directive antennas that operate in fixed mode (direction) but are steerable in the horizontal plane, e.g., steerable log periodic.

(4) ND--For nondirective antennas.

(5) R--For antennas rotating through a full 360 degree azimuth while in operation.

(6) SSH--For antennas scanning horizontally through a limited sector.

(7) SSV--For vertically scanning (nodding) antennas.

(8) T--For tracking antennas capable of continuous reorientation for the purpose of maintaining optimum observance of a moving station or object.

b. TERRESTRIAL STATIONS BELOW 29890 kHz

(1) On applications for assignments to fixed (FX) and aeronautical fixed (AX) stations in the band 3000 to 29890 kHz, enter the appropriate code in accordance with paragraph 27a.(1)-(8). This field may be left blank if the ANTENNA LOCATION is an *area* representing multiple transmitting stations, e.g., Chicago District, or if the application bears either the Note S362 or S189.

(2) On applications for assignments below 29890 kHz, other than those for fixed (FX) and aeronautical fixed (AX) stations in the band 3000 to 29890 kHz, this field may be completed at the option of the applicant in accordance with paragraph 27a.(1)-(8).

c. TERRESTRIAL STATIONS AT 29890 kHz

## AND ABOVE

(1) On applications for assignments to stations at 29890 kHz and above, enter the appropriate code in accordance with 27a.(1)-(8).

(2) This field may be left blank on applications for:

- (a) Experimental stations;
- (b) Mobile stations;
- (c) Portable stations;
- (d) Radiolocation mobile stations;
- (e) Radionavigation mobile stations;
- (f) Transportable stations;
- (g) *Group* assignments;
- (h) A period of six months or less;
- (i) Marker Beacons in the 74.8-75.2 MHz band;
- (j) VOR/ILS in the 108-117.975 MHz band;
- (k) Stations in the Aeronautical Mobile service in the 117.975-136 MHz band;
- (l) Stations in the Aeronautical and Maritime Mobile services in the 138-144, 148-150.8, 157.0375-157.1875, 225-328.6, 335.4-399.9 MHz bands, or on the frequencies 156.6, 156.7, 161.6 MHz;
- (m) Glideslopes in the 328.6-335.4 MHz band;
- (n) Meteorological Aids in the 400.05-406, and 1660-1700 MHz bands;
- (o) TACAN/DME in the 960-1215 MHz band; and
- (p) Aeronautical Telemetry stations in the 1435-1535, 2200-2290 and 2310-2390 MHz bands.

(3) On applications for assignments that are listed above as exceptions, this field may be completed at the option of the applicant.

d. EARTH STATIONS: For Earth and Terrestrial stations (including experimental stations) employing Earth station techniques, insert the letter V followed by a two-digit number expressing the minimum operating angle of elevation of the antenna, in degrees, from the horizontal.

e. SPACE STATIONS: For Space and Terrestrial stations (including experimental stations)

employing Space station techniques, enter one of the following, whichever is applicable.

- (1) NB--for narrow beam antennas, i.e., substantially less than earth coverage; or
- (2) EC--for earth coverage antennas; or
- (3) Leave the field blank in the case of space-to-space operations.

## 28. XCL--Transmitter Call Sign (8 Characters-1 Occurrence)

This field is for the call sign or identifier assigned to the station in accordance with Part 6.5.

a. Insert the full call sign left-justified; however, those that do not require eight spaces and that are formed by letters followed by numbers, insert the letters left-justified and the numbers right-justified.

b. For navigation aids this field is for the identifier instead of a call sign.

*Example:*

XCL01 WUH 55

## 29. XAD--Transmitter Antenna Dimensions (24 Characters--1 Occurrence)

This field shall be completed in accordance with the following procedures. Each entry is dependent upon frequency range and type of station i.e., TERRESTRIAL, EARTH or SPACE. Enter data according to the following:

a. TERRESTRIAL Stations BELOW 29890 kHz:

(1) This field may be left blank if the ANTENNA LOCATION (XAL) is an *area* representing multiple transmitting stations, e.g., Chicago District, or if the application bears either of the Notes S362 or S189.

(2) Gain is required on applications for assignments to fixed (FX) and aeronautical fixed (AX) stations in the band 3000 to 29890 kHz. *Only* the gain shall be entered in characters 1-3 of this field. Characters 4-24 shall be blank. The following formatting instructions apply:

(a) If the gain is less than six decibels with reference to an isotropic source, the applicant

may enter the letters XXG or the actual gain. If the actual gain is entered, use a leading zero and insert the letter G in the third space (e.g., 04G). If the gain is zero it may be entered as 00G.

(b) If the gain is six or more decibels, insert an appropriate two-digit number which represents the gain; use a leading zero if the gain is less than ten. Insert the letter G in the third space.

(3) On all other applications for assignments below 29890 kHz, this field may be completed at the option of the applicant. However, if completed it must be in accordance with (2)(a) or (2)(b) above.

b. TERRESTRIAL Stations at 29890 kHz and ABOVE:

(1) This field may be left blank on applications for:

- (a) Experimental stations;
- (b) Mobile stations;
- (c) Portable stations;
- (d) Radiolocation mobile stations;
- (e) Radionavigation mobile stations;
- (f) Transportable stations;
- (g) *Group* assignments;
- (h) A period of six months or less;
- (i) Marker Beacons in the 74.8-75.2 MHz band;
- (j) VOR/ILS in the 108-117.975 MHz band;
- (k) Stations in the Aeronautical Mobile service in the 117.975-136 MHz band;
- (l) Stations in the Aeronautical and Maritime Mobile service in the 138-144, 148-150.8, 157.0375-157.1875, 225-328.6, 335.4-399.9 MHz bands, or on the frequencies 156.6, 156.7, 161.6 MHz;
- (m) Glideslopes in the 328.6-335.4 MHz band;
- (n) Meteorological Aids in the 400.05-406, and 1660-1700 MHz bands;
- (o) TACAN/DME in the 960-1215 MHz band;
- (p) Aeronautical Telemetry stations in the 1435-1535, 2200-2290, and 2310-2390 MHz bands.

(2) On all applications for assignments above 29890 kHz that are listed in 29.6 (1)(a) - (p) as exceptions, this field may be completed at the option of the applicant.

(3) If more than one antenna is to be used, insert the data for the antenna to be used most frequently.

(4) The following formatting instructions apply:

(a) GAIN--Insert in the first two characters a two-digit number representing the nominal gain of the antenna in decibels. Insert a zero in the first space if the gain is less than ten. Enter the letter G in the third space. If the gain is zero, enter 00G.

(b) NAME--Starting with the fourth character, insert the generic name of the antenna, using no more than ten spaces. If the name requires more than ten spaces, abbreviate, but use all ten spaces.

(c) ELEVATION--Starting with the 14th character, enter a five-digit number representing the site (terrain) elevation in meters above MSL. Use all five spaces, inserting leading zeros as applicable. For a site below MSL, enter a dash in the 14th space and a four digit number. Insert the letter H in the 19th space. Leave blank for assignments to transportable transmitter stations (S362).

(d) HEIGHT--Starting with the 20th character, insert a four-digit number representing the antenna height in meters above terrain. Use all four spaces, inserting leading zeros as applicable. Insert the letter T in the 24th space.

*Example:*

XAD01 10GCRNRRFLCTR06550H0175T

c. EARTH Stations: The following formatting instructions apply to both Earth and Terrestrial stations (including experimental stations) employing Earth station techniques.

(1) Use the entire 24 characters to record the following particulars:

(a) GAIN--Insert in the first two charac-

ters a two-digit number representing the maximum isotropic gain (dB) of the antenna in the direction of maximum radiation; insert a zero in the first space, if the gain is less than ten. Enter the letter G in character three. For a negative gain, insert XXG and give the value in the CIRCUIT REMARKS \*EGN field.

(b) BEAMWIDTH--Beginning with character four, insert a three-digit number representing the antenna beamwidth (degrees) at the half power points. Use all three spaces, inserting leading zeros as applicable. Enter the letter B in character seven. For a beamwidth requiring more than three spaces, insert XXXB and give the value in the CIRCUIT REMARKS \*EBW field.

(c) AZIMUTH--In characters eight through fourteen, insert the azimuth angles (in degrees clockwise from True North) of the main beam. If the Earth station is to communicate with a single Geostationary satellite, insert the azimuth angle to the satellite in spaces eight through ten (use leading zeros), a slant bar in space eleven, and XXX in spaces twelve through fourteen. If it is to communicate with two geostationary satellites, insert the azimuth angle to the first in spaces eight through ten, a slant bar in space eleven, and the azimuth angle to the second satellite in spaces twelve through fourteen. If the Earth station is mobile or transportable, or is to communicate with non-geostationary satellites or with more than two geostationary satellites, indicate the range of azimuth angles over which the Earth station antenna will point by inserting in spaces eight through ten a three-digit number for one extreme azimuth, a hyphen in space eleven, and a three-digit number in spaces twelve through fourteen for the other extreme azimuth. Use leading zeros as necessary and 360 for True North. In character fifteen insert the letter A.

(d) ELEVATION--Starting with character sixteen, insert a five-digit number representing the site (terrain) elevation in meters above MSL. Use all five spaces, inserting leading zeros as necessary. In character twenty-one insert the

letter H.

For mobile or transportable stations, leave blank.

(e) HEIGHT--Starting with character twenty-two, insert a three-digit number representing the antenna height in meters above terrain. Use all three spaces, inserting leading zeros as applicable. For an Earth station aboard an aircraft, insert a two-digit number followed by the letter K to denote the maximum operational altitude of the aircraft in thousands of feet above mean sea level.

For altitudes under 10,000 feet insert a leading zero.

*Example:*

XAD01 35G106B010/130A05200H025

d. SPACE Stations: The following formatting instructions apply to both Space and Terrestrial stations (including experimental stations) using Space station techniques:

(1) This field provides room for the details of up to three antennas per Space station. If the station uses more than three antennas for the requested frequency, provide data for the three most frequently used antennas.

(2) Use characters one through seven for the details of the first antenna. Enter:

(a) GAIN--The first two characters shall contain a two-digit number representing the maximum isotropic gain (dB) of the antenna in the direction of maximum radiation. Insert a zero in the first space if the gain is less than ten. Enter the letter G in character 3. For a negative gain, insert XXG and give the value in the CIRCUIT REMARKS \*SGN field.

(b) BEAMWIDTH--Beginning with character four, insert a three-digit number representing the antenna beamwidth (degrees) at the half power points. Use all three spaces, inserting leading zeros as necessary. Insert the letter B in space seven. For a beamwidth requiring more than three spaces, insert XXXB and give the value in the CIRCUIT REMARKS \*SBW field.

(3) If the assignment involves the use of a second antenna:

(a) Insert a slant bar in character eight; and,

(b) Use characters nine through fifteen for the details as specified in paragraph 29.d.(2) (a) and (b).

(4) If the assignment involves the use of a third antenna:

(a) Insert a slant bar in character sixteen; and,

(b) Use characters seventeen through twenty-three for the details of the third antenna as specified in paragraph 29.d.(2) (a) and (b).

(5) Leave character twenty-four blank.

### **30. RSC--Receiver State/Country (4 Characters--30 Occurrences)**

a. Using one of the geographical abbreviations (state, country, or area) as shown in Annex G, Part 2, insert the abbreviation of the State, Country, or Area in which the site of the receiving station is located.

b. For a station on board a satellite in space, insert SPCE.

*Example:*

RSC01 CO for Colorado.

### **31. RAL--Receiver Antenna Location (24 Characters--30 Occurrences)**

a. This field is for the name of the city or other geographical subdivision in which the site of the receiving antenna is physically located. A major installation, such as Fort Monmouth or Andrews AFB, is considered to be a city or other geographical subdivision. In certain cases non-geographical data are used.

b. In certain cases it may be necessary to describe an *area of operation* for which no specific name can be applied. For locations described as an *area of operation*, it shall be recognized that reception might not occur in every square kilometer of the *area* indicated, and the *area* described might overlap into States

that are not shown in the RECEIVER STATE/COUNTRY (RSC) field.

c. Such *areas* may be described:

(1) as a radius in kilometers extending from a given location:

*Example:*

In the case of reception by one or more mobile stations located at any point within 80 kilometers of Dallas, insert DALLAS in this field and a radius in the CIRCUIT REMARKS \*RAD field; or

(2) by the use of geographical coordinates in Circuit Remarks.

*Example:*

In the case of reception by one or more mobile stations in the area south of 33 degrees N in the State of Arizona, insert Arizona in this field and the data pertaining to the coordinates in the CIRCUIT REMARKS field. An area of operation within several States also may be described in this field as US or USA with the included or excluded States being shown in the CIRCUIT REMARKS field. Similarly, USP may be used if the area includes a Possession.

d. While the data inserted normally shall be geographical names or descriptions, exceptions may be made for experimental operations, mobile operations where the RSC and RAL fields are identical, or for space operations. The following rules apply:

(1) For reception by an experimental station, other than one in space, or to a mobile station having identical RSC and RAL fields, words such as AIRCRAFT, BALLOONS, or SHIPS may be used as appropriate.

(2) For reception by a station aboard a geostationary satellite, insert GEOSTATIONARY.

(3) For reception by a station aboard a non-geostationary satellite, insert NONGEOSTATIONARY.

(4) For reception by a station located on a

natural object in space, insert the name of the object, e.g., MOON.

(5) For reception by a station aboard a space vehicle designed for operation in deep space (beyond the moon) where earth orbital data are irrelevant, insert DEEP SPACE followed by planet(s) name, or PROBE, for those vehicles that do not orbit other planetary objects.

e. Entries in this field are limited to ALPHA and NUMERIC characters.

### **32. RRC--Receiver Control (8 Characters-30 Occurrences)**

This field is optional and is primarily for the name of the facility that controls, either electrically or administratively, the receiving station; however, other similar data may be inserted. If the name exceeds eight characters, abbreviate.

### **33. RLA--Receiver Antenna Latitude (7 Characters--30 Occurrences)**

a. Insert two characters each for the degrees, minutes, and seconds of the latitude of the site named in the RECEIVER ANTENNA LOCATION (RAL) field. Insert leading zeros for degrees, minutes, and seconds as required. Seconds shall be provided whenever possible; however, if it is impracticable to obtain the seconds, insert XX in the spaces provided for seconds.

b. Leave this field blank if:

(1) The site named in the RECEIVER ANTENNA LOCATION (RAL) field is an *area*, see Section 9.8.2, paragraph 31.c.(2) for which coordinates cannot be applied, e.g., Chicago District; or,

(2) If non-geographical data are used, e.g., AIRCRAFT.

c. For a station aboard a Geostationary satellite, insert 000000N.

d. For a station aboard a Non-geostationary satellite or a Deep Space vehicle, leave this field blank.

e. Insert N for North or S for South latitude in the last space as applicable.

f. For assignments where the transmitter and

receiver equipment is not collocated then enter the RLA of the receiving antenna; otherwise, enter the same coordinates contained in XLA.

### **34. RLG--Receiver Antenna Longitude (8 Characters--30 Occurrences)**

a. Insert in degrees (3 characters), minutes (2 characters) and seconds (2 characters), the longitude of the site named in the RECEIVER ANTENNA LOCATION (RAL) field. Insert leading zeros for degrees, minutes, and seconds as required. Seconds shall be provided whenever possible; however, if it is impracticable to obtain the seconds, insert XX in the spaces provided for seconds.

b. Leave this field blank if:

(1) the site named in the RECEIVER ANTENNA LOCATION (RAL) field is an *area* for which coordinates cannot be applied, e.g., Chicago District; or,

(2) if nongeographical data are used, e.g., AIRCRAFT.

c. For a station aboard a Geostationary satellite, insert the longitudinal position of the satellite in degrees (3 characters) and minutes (2 characters) East or West longitude. In this case always enter 00 in the seconds portion of this field. Use leading zeros as required.

d. For a station aboard a Non-geostationary satellite, or a Deep Space vehicle, leave this field blank.

e. Insert E for East or W for West longitude in the last space as applicable.

f. For assignments where the transmitter and receiver equipment is not collocated then enter the RLG of the receiving antenna; otherwise, enter the same coordinates contained in XLG.

### **35. RAP--Receiver Antenna Polarization (3 Characters--30 Occurrences)**

a. Receiver antenna polarization is required on applications:

(1) for receiving Earth or Terrestrial stations (including experimental stations) employing Earth station techniques; or

(2) for receiving Space or Terrestrial sta-

tions (including experimental stations) using Space station techniques; or

(3) for receiving Terrestrial stations at 420 MHz and above.

b. Receiver Antenna Polarization is not required on applications for:

(1) Experimental stations except as indicated in 26.a.(2) and (3);

(2) Mobile stations;

(3) Portable stations;

(4) Radiolocation mobile stations;

(5) Radionavigation mobile stations;

(6) Transportable stations;

(7) *Group* assignments;

(8) A period of six months or less;

(9) Meteorological Aids in the 1660-1700 MHz band;

(10) TACAN/DME stations in the 960-1215 MHz band;

(11) Aeronautical Telemetry stations in the 1435-1535, 2200-2290, and 2310-2390 MHz bands;

(12) Stations using radar;

(13) Passive reflectors.

c. This field may be completed on other applications at the option of the applicant.

d. If more than one antenna is to be used, insert the polarization of the antenna to be used most frequently; however, for a space station, antenna polarization may be listed for up to three antennas, provided they are entered in the same sequence as the antenna data entered in the RECEIVER ANTENNA DIMENSIONS (RAD) field.

e. Insert one of the following letters or combination of letters to indicate the antenna(s) polarization:

D--Rotating

E--Elliptical

F--45 Degrees

H--Horizontal

J--Linear

L--Left Hand Circular

R--Right Hand Circular

S--Horizontal and Vertical

T--Right and Left hand Circular

V--Vertical

X--Other

### 36. RAZ--Receiver Antenna Orientation (3 Characters--30 Occurrences)

a. TERRESTRIAL STATIONS: On applications for assignments to Terrestrial stations complete this field in accordance with the procedures given below for the applicable frequency range. Enter one of the following as applicable:

(1) For directive antennas oriented in a fixed direction, including off-site passive reflectors listed in the RECEIVER ANTENNA LOCATION (RAL) field, enter a three-digit number indicating the azimuth of the main antenna lobe in degrees east of True North, using leading zeros as necessary and 360 for True North.

(2) For stations using on-site passive reflectors, displaced vertically from the primary antenna or installed on the same antenna farm as the primary antenna (normally within 150 meters of the receiver), enter the horizontal azimuth of the on-site passive reflector.

(3) S--For directive antennas that operate in fixed mode (direction) but are steerable in the horizontal plane, e.g., steerable log periodic.

(4) ND--For nondirective antennas.

(5) R--For antennas rotating through a full 360 degree azimuth while in operation.

(6) SSH--For antennas scanning horizontally through a limited sector.

(7) SSV--For vertically scanning (nodding) antennas.

(8) T--For tracking antennas capable of continuous reorientation for the purpose of maintaining optimum observance of a moving station or object.

b. TERRESTRIAL STATIONS BELOW 29890 kHz

(1) On applications for assignments to fixed (FX) and aeronautical fixed (AX) stations in the band 3000 to 29890 kHz, enter the appropriate code in accordance with paragraph 36a.(1) (8). This field may be left blank if the ANTENNA LOCATION is an *area* representing multiple

receiving stations, e.g., Chicago District, or if the application bears either the Note S362 or S189.

(2) On applications for assignments below 29890 kHz, other than those for fixed (FX) and aeronautical fixed (AX) stations in the band 3000 to 29890 kHz, this field may be completed at the option of the applicant in accordance with paragraph 36a.(1)-(8).

**c. TERRESTRIAL STATIONS AT 29890 kHz AND ABOVE**

(1) On applications for assignments to stations at 29890 kHz and above enter the appropriate code in accordance with 36a.(1)-(8).

(2) This field may be left blank on applications for:

- (a) Experimental stations;
- (b) Mobile stations;
- (c) Portable stations;
- (d) Radiolocation mobile stations;
- (e) Radionavigation mobile stations;
- (f) Transportable stations;
- (g) *Group* assignments;
- (h) A period of six months or less;
- (i) Marker Beacons in the 74.8-75.2 MHz band;
- (j) VOR/ILS in the 108-117.975 MHz band;
- (k) Stations in the Aeronautical Mobile service in the 117.975-136 MHz band;
- (l) Stations in the Aeronautical and Maritime Mobile services in the 138-144, 148-150.8, 157.0375-157.1875, 225-328.6, 335.4-399.9 MHz bands, or on the frequencies 156.6, 156.7, 161.6 MHz;
- (m) Glideslopes in the 328.6-335.4 MHz band;
- (n) Meteorological Aids in the 400.05-406, and 1660-1700 MHz bands;
- (o) TACAN/DME in the 960-1215 MHz band;
- (p) Aeronautical Telemetry stations in the 1435-1535, 2200-2290, and 2310-2390 MHz bands; and
- (q) Stations using radar.

(3) On applications for assignments that

are listed above as exceptions, this field may be completed at the option of the applicant.

d. EARTH STATIONS: For Earth and Terrestrial stations (including experimental stations) employing Earth station techniques, insert the letter V followed by a two-digit number expressing the minimum operation angle of elevation of the antenna, in degrees, from the horizontal.

e. SPACE STATIONS: For Space and Terrestrial stations (including experimental stations) employing Space station techniques, enter one of the following, whichever is applicable.

(1) NB--for narrow beam antennas, i.e., substantially less than earth coverage; or

(2) EC--for earth coverage antennas; or

(3) Leave the field blank in the case of space-to-space operations.

**37. ACL--Receiving Station Call Sign (8 Characters--30 Occurrences)**

This field is optional and is for the call sign assigned to the station which will receive transmissions from the station listed in the Transmitter Antenna Location (XAL) field.

Insert the full call sign left-justified; however, those that do not require eight spaces and that are formed by letters followed by numbers, insert the letters left-justified and the numbers right-justified.

**38. RAD--Receiver Antenna Dimensions (24 Characters--30 Occurrences)**

This field shall be completed in accordance with the following procedures. Each entry is dependent upon frequency range and type of station i.e., TERRESTRIAL, EARTH or SPACE. Enter data according to the following:

a. TERRESTRIAL STATIONS BELOW 29890 kHz:

(1) This field may be left blank if the ANTENNA LOCATION (RAL) is an *area* representing multiple receiving stations, e.g., Chicago District, or if the application bears either of the Notes S362 or S189.

(2) Gain is required on applications for

assignments to fixed (FX) and aeronautical fixed (AX) stations in the band 3000 to 29890 kHz. *Only* the gain shall be entered in characters 1-3 of this field. Characters 4-24 shall be blank. The following formatting instructions apply:

(a) If the gain is less than six decibels with reference to an isotropic source, the applicant may enter the letters XXG or the actual gain. If the actual gain is entered, use a leading zero and insert the letter G in the third space (e.g., 04G). If the gain is zero it may be entered as 00G.

(b) If the gain is six or more decibels, insert an appropriate two-digit number which represents the gain; use a leading zero if the gain is less than ten. Insert the letter G in the third space.

(3) On all other applications for assignments below 29890 kHz, this field may be completed at the option of the applicant. However, if completed it must be in accordance with (2)(a) or (2)(b) above.

b. TERRESTRIAL STATIONS at 29890 kHz and ABOVE:

(1) This field may be left blank on applications for:

- (a) Experimental stations;
- (b) Mobile stations;
- (c) Portable stations;
- (d) Radiolocation mobile stations;
- (e) Radionavigation mobile stations;
- (f) Transportable stations;
- (g) *Group* assignments;
- (h) A period of six months or less;
- (i) Marker Beacons in the 74.8-75.2 MHz band;
- (j) VOR/ILS in the 108-117.975 MHz band;
- (k) Stations in the Aeronautical Mobile service in the 117.975-136 MHz band;
- (l) Stations in the Aeronautical and Maritime Mobile services in the 138-144, 148-150.8, 157.0375-157.1875, 225-328.6, 335.4-399.9 MHz bands, or on the frequencies 156.6, 156.7, 161.6 MHz;
- (m) Glideslopes in the 328.6-335.4 MHz

band;

(n) Meteorological Aids in the 400.05-406, and 1660-1700 MHz bands;

(o) TACAN/DME in the 960-1215 MHz band;

(p) Aeronautical Telemetry stations in the 1435-1535, 2200-2290, and 2310-2390 MHz bands;

(q) Stations using radar.

(2) On all applications for assignments above 29890 kHz that are listed in 38.b.(1)(a)-(q) as exceptions, this field may be completed at the option of the applicant.

(3) If more than one antenna is to be used, insert the data for the antenna to be used most frequently.

(4) The following formatting instructions apply:

(a) GAIN--Insert in the first two characters a two-digit number representing the nominal gain of the antenna in decibels. Insert a zero in the first space if the gain is less than ten. Enter the letter G in the third space. If the gain is zero, or antenna is a passive reflector, enter 00G.

(b) NAME--Starting with the fourth character, insert the generic name of the antenna, using no more than ten spaces. If the name requires more than ten spaces, abbreviate, but use all ten spaces. If a reflector is used then enter REFLECTOR as the antenna name.

(c) ELEVATION--Starting with the 14th character, enter a five-digit number representing the site (terrain) elevation in meters above MSL. Use all five spaces, inserting leading zeros as applicable. For a site below MSL, enter a dash in the 14th space and a four digit number. Insert the letter H in the 19th space. Leave blank for assignments to transportable receiving stations (S362).

(d) HEIGHT--Starting with the 20th character insert a four-digit number representing the antenna height in meters above terrain. Use all four spaces, inserting leading zeros as applicable. Insert the letter T in the 24th space.

*Example:*

RAD01 10GCRNRRFLCTR06550H0175T

c. EARTH STATIONS: The following formatting instructions apply to both Earth and Terrestrial stations (including experimental stations) employing Earth station techniques.

(1) Use the entire 24 characters to record the following particulars:

(a) GAIN--Insert in the first two characters a two-digit number representing the maximum isotropic gain (dB) of the antenna in the direction of maximum reception; insert a zero in the first space, if the gain is less than ten. Enter the letter G in character three. For a negative gain, insert XXG and give the value in the CIRCUIT REMARKS \*EGN field.

(b) BEAMWIDTH--Beginning with character four, insert a three-digit number representing the antenna beamwidth (degrees) at the half power points. Use all three spaces, inserting leading zeros as applicable. Enter the letter B in character seven. For a beamwidth requiring more than three spaces, insert XXXB and give the value in the CIRCUIT REMARKS \*EBW field.

(c) AZIMUTH--In characters eight through fourteen, insert the azimuth angles (in degrees clockwise from True North) of the main beam. If the Earth station is to communicate with a single Geostationary satellite, insert the azimuth angle to the satellite in spaces eight through ten (use leading zeros), a slant bar in space eleven, and XXX in spaces twelve through fourteen. If it is to communicate with two or more geostationary satellites, separate applications are required for each Earth station azimuth. If the Earth station is to communicate with non-geostationary satellites or is mobile or transportable, and is to communicate with a geostationary satellite, indicate the range of azimuth angles over which the Earth station antenna will point by inserting in spaces eight through ten a three-digit number representing one of the extreme azimuth angles, a hyphen in

space eleven, and a three-digit number in spaces twelve through fourteen representing the other extreme angle. Use leading zeros as necessary and 360 for True North. In character fifteen insert the letter A.

(d) ELEVATION--Starting with character sixteen, insert a five-digit number representing the site (terrain) elevation in meters above MSL. Use all five spaces, inserting leading zeros as necessary. In character twenty-one insert the letter H.

For mobile or transportable stations, leave blank.

(e) HEIGHT--Starting with character twenty-two, insert a three-digit number representing the antenna height in meters above terrain. Use all three spaces, inserting leading zeros as applicable. For an Earth station aboard an aircraft, insert a two-digit number followed by the letter K to denote the maximum operational altitude of the aircraft in thousands of feet above mean sea level.

For altitudes under 10,000 feet insert a leading zero.

*Example:*

RAD01 35G106B010/XXXA05200H025

d. SPACE STATIONS: The following formatting instructions apply to both Space and Terrestrial stations (including experimental stations) using Space station techniques:

(1) This field provides room for the details of up to three antennas per Space station. If the station uses more than three antennas for the requested frequency, provide data for the three most frequently used antennas.

(2) Use characters one through seven for the details of the first antenna. Enter:

(a) GAIN--The first two characters shall contain a two-digit number representing the maximum isotropic gain (dB) of the antenna in the direction of maximum reception, insert a zero in the first space if the gain is less than ten. Enter the letter G in character 3. For a negative

gain, insert XXG and give the value in the CIRCUIT REMARKS \*SGN field.

(b) BEAMWIDTH--Beginning with character four, insert a three-digit number representing the antenna beamwidth (degrees) at the half power points. Use all three spaces, inserting leading zeros as necessary. Insert the letter B in space seven. For a beamwidth requiring more than three spaces, insert XXXB and give the value in the CIRCUIT REMARKS \*SBW field.

(3) If the assignment involves the use of a second antenna:

(a) Insert a slant bar in character eight; and

(b) Use characters nine through fifteen for the details as specified in paragraph 38.d.(2) (a) and (b).

(4) If the assignment involves the use of a third antenna:

(a) Insert a slant bar in character sixteen; and

(b) Use characters seventeen through twenty three for the details of the third antenna as specified in paragraph 38.d(2) (a) and (b).

(5) Leave character twenty-four blank.

### 39. Circuit Remarks (REM) (40 Characters-30 Occurrences)

The CIRCUIT REMARKS field is used primarily to record frequency assignment characteristics that have no specific fields provided for them on the application, particularly amplifying data concerning the frequency, antenna location, and equipment characteristics. General rules for the formation of entries are given below followed by specific rules for each type of entry. *The use of this field is limited to the following types of entries for which specific rules are given:*

* FRB	* EBW	* JNT	* PRR
* FBE	* EGN	* LSB	* RNT
* RAD	* ENT	* LSR	* RPT
* AGN	* EQR	* LST	* SBW
* ARB	* EQS	* MEX	* SGN
* ARR	* EQT	* NRM	* SNT
* ART	* ESB	* NTS	* SYS
* CAN	* ESR	* ORB	* USA
* DOC	* EST		* FLN

#### a. General Rules

(1) Entries are always preceded by the mnemonic REM, the occurrence number, an asterisk, and a three letter identifying code followed by a comma, e.g., REM01 \*FRB,. In this field, an asterisk is used only for this purpose. Entries concerning frequency bands precede other entries. Enter these data immediately after the comma at the end of the identifying code. The data may be any combination of words and elements. An element is a code or a numeric value. If the data consist entirely of elements, the number of spaces for each element is specified, and the position of each element with respect to the identifying code is specified. If an element is numeric, fill all spaces using leading zeros as necessary. If an element is a code, left-justify in its allocated space, and, if it requires fewer spaces than are allocated, leave the spaces on the right side blank. To increase readability, a word may be used as a code.

(2) Where necessary, specific rules require an entry be completed within a single 40-character line. This is to prevent the division or breaking of an element between two lines. If the use of more than one entry is permitted and is necessary, the identifying code for that entry is entered again at the beginning of each line which is used. Such entries should not have a hyphenated word at the end of a line.

#### b. Frequency Band Data (\*FRB)

On an application for a band of frequencies, e.g., 1200 MHz to 1300 MHz enter the lower limit of the band in the FREQUENCY field and both the lower and upper limits in the CIRCUIT REMARKS field.

(1) Insert the identifying code REM01 \*FRB always as the first entry in the CIRCUIT REMARKS field.

(2) Insert a comma in the 5th space.

(3) Insert the lower limit of the frequency band in the 13 spaces immediately following the comma. Express the frequency in KiloHertz (kHz) below 30000 kHz; in MegaHertz (MHz)

from 30 MHz to (but not including) 100,000 MHz; in GigaHertz (GHz) from 100 GHz to (but not including) 3000 GHz; and in TeraHertz (THz) at 3 THz and above. Insert in the first space after the comma the letter M if the frequency is expressed in MegaHertz, the letter G if the frequency is expressed in GigaHertz, and the letter T if the frequency is expressed in TeraHertz. Always insert a decimal point in the 7th space from the comma. The numeric value of the frequency must completely fill the 13 allotted spaces, leading zeros to the left of the decimal and ending zeros to the right of the decimal being used as necessary.

(4) Insert a comma in the 19th space immediately after the lower limit of the frequency band.

(5) Starting with the 20th space, insert the upper limit of the frequency band as explained in (3) above.

*Examples:*

R	E	M	0	1
*FRB,015010.000000,015100.000000				
R	E	M	0	1
*FRB,010000.000000,M00050.000000				
REM01*FRB,M00162.012500,M00162.587500				
REM01*FRB,M90000.000000,G00110.000000				

*c. Excluded Frequency Band Data (\*FBE)*

In the case of an application for a band of frequencies where a portion of the band is to be excluded, the lower and upper limits of the band are inserted as the first entry as stated under Frequency Band Data above. The portion to be excluded is then inserted as the second entry in the CIRCUIT REMARKS field.

(1) Insert the identifying code \*FBE always as the second entry.

(2) Insert a comma in the 5th space.

(3) Insert the lower limit of the excluded portion in the 13 spaces immediately following the comma. Express the frequency in kiloHertz (kHz) below 30000 kHz; in MegaHertz (MHz)

from 30 MHz to (but not including) 100,000 MHz; in GigaHertz (GHz) from 100 GHz to (but not including) 3000 GHz; and in TeraHertz (THz) at 3 THz and above. Insert in the first space after the comma the letter M if the frequency is expressed in MegaHertz, the letter G if the frequency is expressed in GigaHertz, and the letter T if the frequency is expressed in TeraHertz. Always insert a decimal point in the 7th space from the comma. The numeric value of the frequency must completely fill the 13 allotted spaces, leading zeros to the left of the decimal and ending zeros to the right of the decimal being used as necessary.

(4) Insert a comma in the 19th space immediately after the lower limit of the excluded portion.

(5) Starting with the 20th space, insert the upper limit of the excluded portion as explained in 3 above.

(6) If additional portions of the frequency band are to be excluded, insert each portion on a succeeding entry in ascending order as explained in (1) through (5) above.

*Examples:*

R	E	M	0	1
*FRB,M00960.000000,M01700.000000				
REM02 *FBE,M01400.000000,M01427.000000				
R	E	M	0	3
*FBE,M01660.000000,M01670.000000				

Under this example the following bands would be authorized:

960-1400 MHz  
1427-1660 MHz  
1670-1700 MHz

*d. Authorized Area of Operation (\*RAD)*

Enter a radius of operation from a given geographical location for mobile stations, transportable stations, and multiple transmitting and/or receiving stations (NOTE S361). Normally this geographical location is that of a fixed station;

if no fixed station is involved, select a center point within the operating cell. A radius is required for:

--Multiple transmitting and/or receiving FIXED stations (NOTE S361) if coordinates are entered in the XLA/XLG and RLA/RLG fields.

--Mobile and transportable stations if coordinates are entered in the XLA/XLG and RLA/RLG fields.

--Multiple transmitting FIXED stations (NOTE S361) if coordinates are entered in the XLA/XLG fields.

--Mobile and transportable transmitter stations if coordinates are entered in the XLA/XLG fields.

--Multiple receiving FIXED stations (NOTE S361) if coordinates are entered in the RLA/RLG fields.

--Mobile and transportable receiver stations if coordinates are entered in the RLA/RLG fields.

(1) Complete the total entry within a single 40-space CIRCUIT REMARKS field, i.e., on one entry.

(2) Insert the identifying code REMnn \*RAD.

(3) Insert a comma after the identifying code.

(4) After the comma insert in the next four spaces the radius in kilometers, using leading zeros as necessary.

(5) For assignments in the AAG frequency bands (see 9.2.1 to identify AAG bands), the radius shall be followed by a comma and its equivalent nautical mile value including the letters NM. If the applicant does not submit the nautical mile equivalent, it will be generated by NTIA.

(6) At the option of the applicant, amplifying data describing the area of operation may be included on the \*RAD entry. Insert a comma after the radius followed by the amplifying data. THE ENTIRE RADIUS ENTRY INCLUDING ALL THE AMPLIFYING DATA SHALL BE CONTAINED WITHIN A SINGLE 40-SPACE

CIRCUIT REMARKS LINE.

(7) Should the assignment contain the amplifying data B, R, or T in \*RAD, these indicate:

B - Transmission authorized and reception protected within the radius drawn around the XLA/XLG and RLA/RLG coordinates

R - Reception protected within the radius drawn around the RLA/RLG coordinates

T - Transmission authorized within the radius drawn around the XLA/XLG coordinates

Should the assignment contain multiple receiver locations and the area of operation shown applies to some but not all receiver locations, the receiver occurrence number may be shown in the optional data portion of \*RAD. Likewise, if different values for an area of operation pertain to the transmitter and receiver locations, these values are followed by an R or T as indicated above.

*e. Authorized States (\*ESB, \*ESR, \*EST, \*LSB, \*LSR, \*LST)*

The transmitter and receiver ANTENNA LOCATION fields provide that an area of operation within several States may be described in those fields as US or USA, with the included or excluded States being shown in the CIRCUIT REMARKS field. Similarly, USP may be used if the area includes a Possession.

(1) Insert one of the following identifying codes after REMnn:

\*LST for transmitting in the States listed.

\*LSR for receiving in all States listed.

\*LSB for transmitting and receiving in the States listed.

\*EST for transmitting in all States except those listed.

\*ESR for receiving in all States except those listed.

\*ESB for transmitting and receiving in all States except those listed.

(2) Insert a comma after the identifying code.

(3) After the comma insert the State or Possession abbreviation as shown in Annex G, Part 2, followed by another comma.

(4) After the comma insert the abbreviations for the additional States or Possessions, separating the abbreviations by commas. Do not insert a comma after the last abbreviation.

(5) If more than one entry is required, repeat the identifying code at the beginning of each entry.

(6) If the fact that operation in any one or more, but not all, of the areas listed under this data entry is classified, separate CIRCUIT REMARKS entries must be made for the classified data and unclassified data in order to comply with the requirements of subparagraphs cc (Classified Data Fields (\*CLD)) and dd (Unclassified Data Fields (\*CLU)) of paragraph 39 of this section.

*Examples:*

REM01 \*LST,CA,OR,WA (transmitting in 3 States)

REM03 \*LSR,AL,GA,MS (receiving in 3 States)

REM04 \*LSB,IL,IN,OH (transmitting and receiving in 3 States)

REM02 \*EST,AZ,NM,TX (transmitting in all States except those listed)

REM01 \*LST,FL,PR (transmitting in 1 State and Puerto Rico)

*f. Authorized Areas (\*ARB, \*ARR, \*ART)*

The CIRCUIT REMARKS field also may be used to describe areas which cannot be described under Authorized Area of Operation or Authorized States, e.g. a part of a State or parts of several contiguous States. In such cases the transmitter and/or receiver ANTENNA LOCATION fields would show the name of the State or

USA.

(1) Complete the total entry for the Authorized Area within a single 40-space CIRCUIT REMARKS entry, unless the provisions of subparagraph (6) below apply.

(2) Insert *one* of the following identifying codes after REMnn:

\*ART for transmitting in the area shown.

\*ARR for receiving in the area shown.

\*ARB for transmitting and receiving in the area shown.

(3) Insert a comma after the identifying code.

(4) After the comma insert the data concerning the area. It is preferable to always identify this area as either a square or rectangle, using the four points of the compass in degree and minutes. When this is not possible, use the abbreviations in Annex G, Part 2, to identify a State or Possession. Use E for east(ern), N for north(ern), S for south(ern) and W for west(ern).

(5) Separate elements by commas.

(6) If the fact that operation in any one or more, but not all, of the areas listed under this data entry is classified, separate CIRCUIT REMARKS entries must be made for the classified data and unclassified data in order to comply with the requirements of subparagraphs cc (Classified Data Fields (\*CLD)) and dd (Unclassified Data Fields (\*CLU)) of paragraph 39 of this section.

*Examples:*

REM01 \*ARB,39N43N098W099W  
(use leading zero for longitude less than 100 degrees)

REM02 \*ART,3915N4320N10016W  
10102W

REM03 \*ARR,S OF 33N

REM01 \*ART,S OF 40N,E OF 095W

REM03 \*ART, SW WY, NE UT, NW CO

*g. Docket Numbers of Older Authorizations (\*DOC)*

When renewing or modifying an assignment (see Part 9.9), the docket number applicable to the older authorization is automatically retained in the assignment record. When deleting an assignment and, simultaneously, submitting a NEW or NOTIFICATION action to replace it (see Part 9.7), the docket number applicable to the older authorization is not retained in the assignment records. The absence of the older docket number makes difficult any review of the history of a given authorization. In the latter case, the older docket number may be included in the CIRCUIT REMARKS field of the application immediately following the identifying code \*DOC. In addition, the date of authorization of the older docket and/or the applicable agency serial number may be included, in that order, on the same entry immediately following the docket number.

(1) Complete the total entry within a single 40-space CIRCUIT REMARKS entry.

(2) Insert the identifying code REMnn \*DOC. (3) Insert a comma after the identifying code.

(4) After the comma insert the docket number(s) of the older authorization(s). Separate multiple docket numbers by commas.

(5) If a date and/or serial number is to be inserted, insert a comma followed by the pertinent data, separating by a comma the date and the agency serial number. Dates must have six digits indicating year, month, and day.

*Examples:*

REM02 \*DOC,84729 (docket only)

REM11 \*DOC,73621,570415 (docket and date)

REM08 \*DOC,67543,551025,N 550142 (docket, date, and serial)

REM03 \*DOC,I8143591,AF 810230 (docket and serial)

REM07 \*DOC,89432,I6723419 (two dockets)

*h. Receiving Repeater (\*RPT)*

This field is used only to identify a receiver location which is used as a repeater in the bands listed in Section 6.1.3, paragraph 2. If the station named in the receiver ANTENNA LOCATION field is used primarily as a repeater, it may be so identified in the CIRCUIT REMARKS field.

(1) Insert the identifying code REMnn \*RPT.

(2) Insert a comma after the identifying code.

(3) After the comma insert the letter R. If there is more than one location entered in the receiver ANTENNA LOCATION field, and if each location is used primarily as a repeater, insert the letter R: however, if some but not all of the locations are used primarily as a repeater, insert the letter R followed by the appropriate receiver.

*Examples:*

REM01 \*RPT,R (Each location entered in the receiver ANTENNA LOCATION field is used primarily as a repeater.)

REM02, \*RPT,R02 (The location entered as the second receiver ANTENNA LOCATION field is used primarily as a repeater.)

*i. Joint Applications (\*JNT)*

An application that is submitted jointly by two or more agencies is prepared by the agency identified in the AGENCY SERIAL NUMBER field, and all agencies involved are identified in the CIRCUIT REMARKS field, using the agency abbreviation as shown in Annex G, Part 1.

(1) Insert the identifying code REMnn \*JNT.

(2) Insert a comma after the identifying

code. (3) After the comma insert in the next four spaces the abbreviation of the first agency. Left-justify the abbreviation, leaving blank the spaces to the right if the abbreviation has fewer than 4 characters.

(4) For the remaining agencies insert the appropriate abbreviations separated by commas.

(5) If more than one entry is required, repeat the identifying code at the beginning of each entry.

(6) If the fact that one or more, but not all, of the agencies jointly involved in this application is classified, separate CIRCUIT REMARKS entries must be made for the classified data and unclassified data in order to comply with the requirements of subparagraphs cc (Classified Data Fields (\*CLD)) and dd (Unclassified Data Fields (\*CLU)) of paragraph 39 of this section.

*Example:*

REM08 \*JNT,DOE ,AR ,NASA (for this example DOE's serial number would appear in the AGENCY SERIAL NUMBER field).

*j. Agency Data (\*AGN)*

The CIRCUIT REMARKS field may be used to record agency data that are pertinent to the proposed assignment but not intended to be a part of the authority requested. The data shall not include decodes of the particulars of the proposed assignment.

(1) Insert the identifying code REMnn \*AGN.

(2) Insert a comma after the identifying code.

(3) After the comma insert the agency data.

(4) If more than one entry is required, repeat the identifying code at the beginning of each entry.

*Examples:*

REM02 \*AGN,VIA PASSIVE SATEL-  
LITE

REM03 \*AGN,DELETE IN APRIL 1971

REM04 \*AGN,WIRELESS  
MICROPHONE

REM05 \*AGN,SHARED  
INTERBUREAU

REM06 \*AGN,NARROWBAND IN FIS-  
CAL 1969

*k. Notes (\*NTS)*

The CIRCUIT REMARKS \*NTS field is used to complete the conditional comments of the MINUTE (M--) NOTE agreed to by the FAS. Insert the identifying code REMnn \*NTS, a comma, the MINUTE NOTE, a comma, and the data to complete the MINUTE NOTE.

*Examples:*

Notes Entries

M002 REM02 \*NTS,M002,7640924,FCC TO  
NTIA

REM11 \*NTS,M002,IRAC, 13381

REM07 \*NTS,M002,FAS, 1700927B

M003 REM01 \*NTS,M003,WRC/TV,  
WASHINGTON

REM08 \*NTS,M003,JOHN SMITH,  
415/841/5121

REM03 \*NTS,M003,ONR,  
MINNEAPOLIS

M004 Same as M003

M006 REM02 \*NTS,M006,ROCKVILLE,MD

M007 REM08 \*NTS,M007,NAVY

REM09 \*NTS,M007,FCC,EIC,NY

M008 REM01 \*NTS,M008,FAA,5965kHz,  
HONO/TOKYO

M009 REM01 \*NTS,M009,AF

M010 Same as M009

M011 REM08 \*NTS,M011,WABC,NY

REM10 \*NTS,M011,KHVO/TV,  
COWLICK,TX

*l. Canadian Coordination Data (\*CAN)*

(1) An entry is required for all applications which have been coordinated with Canada (see Part 3.4).

(2) After NEW assignments have been coordi-

nated with Canada, the Canadian comments will automatically be entered by NTIA's processing programs in the appropriate REMnn entry as \*CAN, the U.S. coordination serial number, and, either:

(a) NHIA--No Harmful Interference Anticipated; or,

(b) the actual comment received from Canada

*Examples:*

REM08 \*CAN,780029,NHIA  
 REM02 \*CAN,750361,NO MOBILE USE  
 WITHIN 64 KILOMETERS  
 REM03 \*CAN,RAD OF BURNABY BC

(3) For updating GMF records, including the use of the record replacement action, the following procedure applies:

(a) If the updated assignment will not increase the probability of harmful interference, agencies are required to retain the existing \*CAN entry, including CAN ORIG; these assignments will not be re-coordinated with Canada.

(b) If the probability of harmful interference is increased, the assignment will be re-coordinated with Canada and the agency should not retain \*CAN data.

(4) If the frequency assignment is to be used in the Canadian coordination border zone defined in Arrangement D, Section 3.4.6, and,

(a) the frequency is 408.400 MHz the Canadian coordination program will automatically enter:

\*CAN,CAN LTR 17 JAN 79. NO OBJ NIB.  
 \*CAN,CANADA USE EXCL FOR RADIO  
 ASTRONOMY

(b) the frequency is either 418.050, 418.075, or, 418.575 MHz the Canadian coordination program will automatically enter:

\*CAN,CAN LTR 17 JAN 79, AGREE COMM

CAN

\*CAN,U.S. USE ON A SHARED NON PRI  
 BASIS

*m. Number of Stations and System Name/Identifier (\*NRM)*

(1) The Circuit Remarks (\*NRM) field is used to indicate the number of stations and system name/identifier with which the assignment may be identified.

(2) A station is one or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a radiocommunication service. A system is two or more stations that have a common property, usually geographic, administrative, functional, or operational in nature.

(3) System names/identifiers shall be determined by the applicant and may be alphabetic, numeric, or alphanumeric. Each shall be unique within an agency but may be used by more than one agency. Systems names/identifiers shall not contain more than 29 characters including spaces. If abbreviations are used, the system names-/identifier shall be abbreviated the same way each time it is used within a given agency.

(4) The word NET may be used as the system name for each assignment that represents an entire system, e.g., a single base station and a number of mobile stations that communicate on a single frequency.

(5) If the identity of a system is applied to a particular frequency assignment, it is the responsibility of the applicant agency to ensure that the same name/identifier is recorded in the particulars of all assignments associated with that same system.

(6) The entry (\*NRM), including the number of stations and system name/identifier is required if:

(a) the assignment is within one or more of the following frequency ranges:

30.0-50.0 MHz*	406.1-420 MHz
138.0-144.0 MHz	806.0-824.0 MHz**

148.0-149.9 MHz	851.0-869.0 MHz**
150.05-150.8 MHz	896.0-901.0 MHz**
162.0-174.0 MHz	935.0-940.0 MHz**

\*Limited to exclusive Government Bands.

\*\*Limited exclusively to the Specialized Mobile Radio (SMR) service (see 8.2.49)

and

(b) the frequency assignment has one or more of the following station class symbols:

FB	FL	FLEC	MLP	MOEB	MS
FBD	FLD	FLH	MO	MOEC	MSD
FC	FLE	FLU	MOD	MOH	MSP
FCB	FLEA	ML	MOE	MOP	
FCD	FLEB	MLD	MOEA	MOU	

or

(c) the assignment is within one or more of the frequency ranges listed in (6)(a) and the letter "R" is appended to any of the station classes listed in (6)(b); or

(d) the assignment is within one or more of the frequency ranges in (6)(a) and the NOTES (NTS) field contains either S361 or S362. or,

(e) the assignment is for a frequency above 29890 kHz and the transmitter STATE/COUNTRY (XSC) field contains US, USA, or USP; except, where the NOTES (NTS) field contains S322.

(f) The assignment is for a Specialized Mobile Radio (SMR) service frequency in the 806-824, 851-869, 896-901 or 935-940 MHz land mobile bands.

(7) Except as provided in (6) above, the entry may be used to record only the system name/identifier of the system with which the assignment is associated (see (10)(e) below)

(8) At the option of the applicant \*NRM data may be recorded for all other assignments or,

(9) The figure recorded for the number of stations in the SMR system will be the exact number. The figure recorded for the number of stations not in the SMR system shall represent either the exact number or a range of numbers determined as follows:

Within the range	Record the number
1-10	10
11-30	30
31-100	100
101-300	300
301-1000	1000
1001-3000	3000
3001-10000	10000
Above 10000	Nearest 10000

If the exact number is to be recorded, and if it is 10, 30, 100, 300, 1000, 3000, or a multiple of 10000, add one to the number in order to distinguish it from a figure that represents a range of numbers. The number recorded shall be the same on each application for an assignment associated with the particular system. If the figure changes, all associated assignments shall be amended.

(10) The following detailed instructions shall be used to record \*NRM data:

(a) Complete the total entry within a single line.

(b) Insert the identifying code REMnn \*NRM.

(c) Insert a comma in column 5.

(d) Beginning in column 6 insert a five digit number to indicate the number of stations. Use leading zeroes as necessary; or

(e) Beginning in column 6 insert in the next five spaces the letters XXXXX if data are being provided in accordance with (7) above.

(f) Insert a comma in column 11.

(g) Insert the system name/identifier beginning in column 12 (a maximum of 29 columns are available for this data).

*Examples:*

REM03 \*NRM,00100,MIAMI (31 to 100 stations for the MIAMI system)

REM05 \*NRM,00045,REGION2 (45 stations for the REGION 2 system)

REM01 \*NRM,00010,NET (1 to 10 stations for a single assignment that represents an entire system)

REM04 \*NRM,XXXXX,BD046  
 REM02 \*NRM,XXXXX,ELLSWRTHD  
 SATAF  
 REM01 \*NRM,XXXXX,NOPRAIRI 2  
 REM09 \*NRM,XXXXX,SOUTH  
 JACKSONVILLE

(11) Agencies desiring to distinguish between the number of mobiles and portables in use for their assignments may do so in the following manner:

REM02 \*NRM,00100,M,REGION3  
 REM03 \*NRM,00275,P,REGION3

Indicating separate numbers for mobiles and portables is optional. If only one number is shown that number indicates the sum of both mobiles, portables and stations. The option exists even when an agency desires to indicate a portable station class in STC. Similarly, if an agency DID NOT desire to use a portable station class in STC that agency could indicate an \*NRM line for the mobile stations and a separate \*NRM line for the portable stations.

#### *n. Pulse Repetition Rate (\*PRR)*

(1) On an application for assignment to a station using a secondary radar on the frequency 1030 MHz or for pulsed radars operating in the bands 1215-1400, 2700-2900, and 9000-9200 MHz, enter the pulse repetition rate in \*PRR.

(2) Insert the field code REMnn followed by one space, the code \*PRR, then a comma. After the comma insert the numeric value, preferable a measured value, for the specific pulse repetition rate to be used. PRR will be indicated in pulses per second up to and including 999 PPS and in thousands at 1000 PPS and above, adding the letter K at the end of the numeric value for the latter. For equipments having a capability for more than one specific PRR, insert the appropriate numerical values separated by a slant bar. For equipments having a capability for continuously variable PRR's over a wide range, insert upper and lower numerical values

separated by a dash. At the option of the applicant, \*PRR may be included on applications for pulsed equipment operating in any band.

#### *o. Equipment Characteristics (\*EQR, \*EQS, \*EQT)*

(1) All applications for new stations above 29.89 MHz, except as indicated in paragraphs (2) and (3) below, shall contain the indicated data on equipment nomenclature and, where applicable, the data shall be entered as specified in paragraph (4) below. At the option of the applicant, data on nomenclature may be included on applications below 29.89 MHz.

(2) Equipment nomenclature is not required, neither EQT/EQR nor EQS, in the following cases, but may be included at the option of the applicant:

(a) On application with S321 or S322 in the Notes field.

(b) For XR class of station used for terrestrial radiocommunication. XR class of station used for space radiocommunication requires EQT and EQR.

(c) For MO, ML, MA, or MS classes of station, including whenever suffixed by one or two letters, e.g., MOE, MOEA.

(d) For doppler radars (speed meters) on frequencies 10525 MHz or 24150 MHz which are FCC type accepted.

(3) Receiver nomenclature (EQR) is not required for:

(a) BC, BCI, BT, EE, or SS classes of station;

(b) ECM or ECCM operations;

(c) TACAN/DME;

(d) Markers in the band 74.8-75.2 MHz; or signal generators; however, transmitter nomenclature (EQT) is required;

(e) 1030 MHz.

(4) The following special provisions apply in the case of certain types of applications:

(a) The nomenclature data entered on applications for group assignments (see Section 9.6.5) may be representative of the equipments concerned.

(b) For pulsed radars in the bands 1215-1400, 2700-2900, and 9000-9200 MHz, the tune-ability and pulse duration capability of the transmitter shall be entered on the EQT line after the transmitter nomenclature, except when the provisions of subparagraph (5) below apply. The pulse repetition rate shall be entered in \*PRR.

(c) In the case of certain applications in the bands 29.89-50.00, 108.000-117.975, 150.8-174.0, 328.6-335.4, 406.1-420.0 and 450-512 MHz, a code may be entered instead of nomenclature to indicate the technical characteristics of typical equipments.

(5) If any of the data, but not all, to be entered in an equipment characteristics data field entry are classified, separate CIRCUIT REMARKS entries must be made for the classified data and unclassified data in order to comply with the requirements of subparagraphs cc (Classified Data Fields (\*CLD)) and dd (Unclassified Data Fields (\*CLU)) of paragraph 39 of this section. (An example of such mixed data that would require separate entries is when the equipment nomenclature of a radar system is unclassified, yet the pulse duration or tunability is classified.)

*Example:*

```
REM04 *EQT,G,//AN/RADAR-12$AT-
1221
REM05 *EQT,G,TC,PD2M/6M
REM08 *CLD,REM05,ETC,ETC,ETC
REM09 *CLU,ALL DATA FIELDS NOT
LISTED *CLD
```

### General

1. The nomenclature for the transmitters and receivers associated with the assignment shall be indicated. If the nomenclature includes prefixes or suffixes such as MOD or MOD and a numeral, include these symbols. If the nomenclature includes the word "MARK", use the abbreviation MK. In lieu of transmitter or receiver nomenclature, the system nomenclature

may be indicated. (System nomenclature is defined, for purposes of this section, as that nomenclature assigned to a combination of equipments, e.g., AN/GRC-27 consisting of a T217 transmitter, an R278 receiver, and an AT197 antenna.)

2. Antenna nomenclature may be provided at the option of the applicant.

3. If both a Government nomenclature and a commercial model number are associated with the same equipment, the Government nomenclature is preferred.

4. If only a commercial model number is available, also indicate the manufacturer of the equipment. A list of manufacturer names and associated codes is printed in Annex G, Part 5. If the manufacturer's name is not listed, call the FAS Secretary.

5. If neither a Government nomenclature nor a commercial model number has been assigned, the manufacturer's code and a short descriptive name of the equipment shall be entered in the CIRCUIT REMARKS field.

6. Entries may be continued on additional Circuit Remarks lines, if necessary.

### Transmitters

For transmitters insert the following:

#### Identifying Code

Insert the Identifying Code REMnn \*EQT.

#### Commercial/Government Equipment Code

Insert a comma after the Identifying Code followed by G for a Government nomenclature, C for a commercial model number, or U if neither has been assigned.

#### Nomenclature (Transmitters)

Insert a comma after the Commercial/Government Equipment Code followed by the nomenclature of the transmitter. If a commercial model number is used, enter the manufacturer's code before the model number. If more than one type of transmitter is used, separate the nomenclature/model numbers by commas. In lieu of the transmitter nomenclature, the system

nomenclature may be provided by inserting two slant bars (//) followed by the system nomenclature. If neither a Government nomenclature nor a commercial model number has been assigned enter \*EQT,U, the abbreviation of the manufacturer's code, a short descriptive name of the transmitter, and disregard the instructions for antenna nomenclature in the following paragraph.

#### **Nomenclature (Antenna)**

If the transmitter is associated with a specific antenna nomenclature, it may be included, at the option of the applicant, by inserting the symbol \$ followed by the antenna nomenclature.

#### *Examples (Transmitters):*

REM02 \*EQT,G,T128MOD2

A Government nomenclature transmitter whose nomenclature is T128MOD2; this is a modification of the original T128 transmitter.

REM04 \*EQT,C,MOTB93MPB

A commercial transmitter manufactured by Motorola, with model number B93MPB.

REM04 \*EQT,G,//AN/ARC322\$AS102

A Government nomenclatured system AN/ARC-322 which utilizes an AS102 antenna.

#### **Pulsed Radars in the Bands 1215-1400, 2700-2900, and 9000-9200 MHZ**

Immediately after the transmitter nomenclature, insert the tuneability and pulse duration capability of the radar transmitter, as described below. Enter the pulse repetition rate capability in \*PRR. At the option of the applicant, these data may be included on applications for pulsed radars in other bands.

#### **Tuneability**

After the transmitter nomenclature, insert a comma and one of the tuneability codes FA, FX, FV, TC, or TS, according to the following:

FA For frequency agility radars which operate on various frequencies within a band, either in a specified or random mode.

FX For radars capable of operating only on a single discrete frequency.

FV For radars that operate on a discrete frequency determined by the characteristics of a fixed magnetron or similar radio frequency generating device.

TC For radars capable of being tuned to any frequency within the authorized band.

TS For radars capable of being tuned across the authorized band in discrete steps or increments.

#### **Pulse Duration**

After the tuneability code, insert a comma and the letters PD followed by a numeric value indicating the characteristic pulse duration(s) of the equipment (at the half-power points). PD will be indicated in microseconds up to and including 999 microseconds and in milliseconds at onemillisecond and above, adding the letter M at the end of the numeric value for the latter. Fractions may be shown to the nearest tenth by using a decimal. For equipments having a capability for more than one specific PD, insert the appropriate numerical values separated by a slant bar. For equipments having a capability for continuously variable PD's over a wide--range, insert upper and lower numerical values separated by a dash.

#### *Examples:*

PD1/3/5.6

PD2M/6M

PD1-25

#### *Example:*

REM04 \*EQT,G,//ASR-4,TC,PD0.833

#### **Receivers**

For receivers insert the following:

#### **Identifying Code**

Insert the Identifying Code \*EQR.

### **Commercial/Government Equipment Code**

Insert a comma after the Identifying Code followed by G for a Government nomenclature, C for a commercial model number, or U if neither has been assigned.

### **Nomenclature (Receivers)**

Insert a comma after the Commercial/Government Equipment Code followed by the nomenclature of the receiver. If a commercial model number is used, enter the manufacturer's code before the model number. If more than one type of receiver is used, separate the nomenclature/model numbers by commas. In lieu of the receiver nomenclature, the system nomenclature may be provided by inserting two slant bars (//) followed by the system nomenclature. If neither a Government nomenclature nor a commercial model number has been assigned, enter \*EQR,U the abbreviation of the manufacturer's code, a short descriptive name of the receiver, and disregard the instructions for antenna nomenclature in the following paragraph.

### **Nomenclature (Antenna)**

If the receiver is associated with a specific antenna nomenclature, it may be included, at the option of the applicant, by inserting the symbol \$ followed by the antenna nomenclature.

### **Occurrence Label Indicator**

If the indicated receiver is used at all receiving locations on the application, no occurrence label needs to be indicated. If the receiver nomenclature is associated with only some of the receiver locations, insert after the nomenclature a plus sign (+) followed by the associated receiver location. Separate the entries for other receiver locations by commas and begin each with the equipment code (G, C, or U).

*Examples: (Receivers)*

REM03 \*EQR,G,RR201

A Government nomenclatured receiver whose nomenclature is RR201 associated with all

receiver locations on the application.

REM04 \*EQR,C,RCACR 1004

RCA receiver model CR 1004 associated with all receiver locations on the application.

REM06 \*EQR,G,//AN/GRC20\$AS202

A Government nomenclature system--AN/GRC-20 system, using an AS202 antenna associated with all receiver locations on the application.

### **Transceivers**

If a transceiver is used, and the transmitter and receiver do not have separate nomenclatures, the transceiver nomenclature shall be indicated under both \*EQT and \*EQR Identifying Codes.

*Examples: (Transceivers)*

REM04 \*EQT,G,SCR1055

Transmitter entry for Government nomenclature transceiver SCR1055.

REM05 \*EQR,G,SCR1055

Receiver entry for Government nomenclatured transceiver SCR1055.

If a transceiver and its antenna are included as part of the transceiver nomenclature, so indicate by entering the transceiver nomenclature followed by the symbol \$ and the transceiver nomenclature.

*Examples: (Transceivers/Antennas)*

REM02 \*EQT,G,SCR1055\$SCR1055

Transmitter entry for Government nomenclatured transceiver SCR1055 which includes an antenna within the nomenclature.

REM04 \*EQR,G,SCR1055\$SCR1055

code LMS.

Receiver entry for Government nomenclatured transceiver SCR1055 which includes an antenna within the nomenclature.

*Example:*

REM02 \*EQS,LMS

### **Transmitter Antenna and Receiver Antenna**

In certain instances a single nomenclature/model number has been assigned to combinations consisting of a transmitter and its associated antenna or a receiver and its associated antenna, i.e., the antenna does not have a nomenclature, but is considered to be part of the transmitter or receiver. In such cases, enter the nomenclature as a transmitter or receiver nomenclature followed by the symbol \$ and the transmitter or receiver nomenclature.

Transmitters and receivers associated with this assignment have characteristics as specified in Part 5.6.

Although the equipment characteristics are not outlined in Part 5.6, \*EQS,LMS may be used in the 450-512 MHz band.

### **Option for Indicating Certain Equipment in the Bands 108-117.975 & 328.6-335.4 MHz**

If the equipment to be used in these bands has the characteristics and is for the purpose specified in 2 below, the codes indicated in 1 below may be used instead of equipment nomenclature. When this optional procedure is used, insert the Identifying Code \*EQS followed by a comma and the appropriate code from paragraph 1 below.

*Examples:*

REM04 \*EQT,G,AN/PRC201\$AN/PRC201

A Government nomenclatured transmitter AN/PRC201 which includes an antenna within the nomenclature.

#### *1. Typical VOR and ILS Equipment Codes*

REM02 \*EQR,G,AN/PRR302\$AN/PRR302

A Government nomenclatured receiver AN/PRR302 which includes an antenna within the nomenclature.

VOR1A     Standard   VHF   Omni-Range  
(100kHz channelling)

VOR1B     Doppler   VHF   Omni-Range  
(100kHz channelling)

### **Option for Indicating Certain Equipment in the Bands 29.89-50, 150.8-174, 406.1-420 & 450-512 MHz**

If the equipment to be used in these bands have the characteristics, as outlined in Part 5.6, of typical single channel, fixed and land mobile, FM equipment with bandwidths not exceeding 16 kHz, the code LMS may be used instead of equipment nomenclature. When this optional procedure is used, insert the Identifying Code REMnn \*EQS followed by a comma and the

VOR2A     Standard   VHF   Omni-Range  
(50kHz channelling)

VOR2B     Doppler   VHF   Omni-Range  
(50kHz channelling)

ILSLOC     ILS Localizer (50kHz channelling)

ILSGS     ILS Glide Slope (150kHz channelling)

*Examples: (Typical VOR & ILS Equipment)*

\*EQS,VOR1A

Standard VOR with 100 kHz channelization having characteristics specified in 2 below.

\*EQS,VOR1B

Doppler VOR with 100 kHz channelization having characteristics specified in 2 below.

\*EQS,VOR2A

Standard VOR with 50 kHz channelization having characteristics specified in 2 below.

\*EQS,VOR2B

Doppler VOR with 50 kHz channelization having characteristics specified in 2 below.

\*EQS,ILSLOC

ILS Localizer having characteristics specified in 2 below.

\*EQS,ILSGS

ILS Glide Slope having characteristics specified in 2 below.

## 2. Typical Equipment Characteristics

### **VHF OMNI-RANGE--100 kHz Channel (Standard--VOR1A, Doppler--VOR1B)**

1. Lower Frequency: 108.0 MHz; Upper Frequency: 117.95 MHz.

2. Frequency Tolerance: .002%.

3. Emission:

21KA9W (with voice)

21KA2A (without voice)

4. Power: 13 to 200 watts.

5. Modulator Bandwidth: 10 kHz.

6. Modulator Data: 30 Hz - 30%; 9960 Hz -

30%; 1020 Hz - 8%; Voice - 28%.

7. Emission Falloff:

$\Delta F$  kHz      20   60

Level (dB)   -20   -60

8. Spurious Attenuation: -80dB

9. Antenna Type: Alford Loop Array (Standard VOR) 50 element antenna array (Doppler VOR).

10. Horizontal Beamwidth: 360°.

11. Vertical Beamwidth: 85°.

12. Polarization: Horizontal.

13. Orientation: Non-directive.

### **VHF OMNI-RANGE (50 kHz Channel) (Standard--VOR2A, Doppler VOR2B)**

1. Lower Frequency: 108.0 MHz; Upper Frequency: 117.95 MHz.

2. Frequency: Tolerance: 002%

3. Emission: 21KA9W (with voice)

21KA2A (without voice)

4. Power: 13 to 200 watts

5. Modulator Bandwidth: 10kHz.

6. Modulator Data: 30 Hz - 30%; 9960 Hz - 30%; 1020 Hz - 8%; Voice - 28%.

7. Emission Falloff:

$\Delta F$  kHz      20   30   40

Level (dB)   -30   -50   -60

8. Spurious Attenuation: -80dB

9. Antenna Type: Alford Loop Array (Standard VOR); 50 element antenna array (Doppler VOR).

10. Horizontal Beamwidth: 360°

11. Vertical Beamwidth: 80°

12. Polarization: Horizontal

### **ILS LOCALIZER (ILSLOC)**

1. Lower Frequency: 108.1 MHz; Upper Frequency: 111.95 MHz.

2. Frequency Tolerance: 0.002%

3. Emission: 2K04A1A to 15KA9W

4. Power: 5 to 200 watts.

5. Modulator Bandwidth: 3kHz.

6. Modulator Data: 90 Hz - 20%; 150 Hz - 20%; Voice - 50%; 1020 Hz - 5%.

7. Spurious Attenuation: -75dB
8. Antenna Types: Standard 8-Loop (Alford); V-Ring, Waveguide; Traveling Wave (Alford); Dipole Array (MRN-7); SDF (Simplified Directional Facility).
9. Horizontal Beamwidth: 10° to 360°
10. Vertical Beamwidth: 40°
11. Polarization: Horizontal
12. Orientation: Fixed
13. Channelization: 50 kHz

### ILS GLIDE SLOPE (ILSGS)

1. Lower Frequency: 329 MHz; Upper Frequency: 335 MHz.
2. Frequency Tolerance: 0.002%.
3. Emission: 300HA1N to 3K3A1N.
4. Power: 1 to 25 watts.
5. Modulation Bandwidth: 150 Hz.
6. Modulation Data: 90 Hz - 50%; 150 Hz - 40%.
7. Spurious Attenuation: -68dB
8. Antenna Types: Dipoles; Box Antenna; Wave Guide; Cavity.
9. Horizontal Beamwidth: 24° to 72°.
10. Vertical Beamwidth: 128°.
11. Polarization: Horizontal.
12. Orientation: Fixed.
13. Channelization: 150 kHz.

### Space Radiocommunication Assignments

If the application is for an assignment to earth or space stations or to terrestrial stations (including experimental stations) employing earth or space station techniques, insert the following data in the format indicated:

*p. Receiving Station in Space Noise Temperature (Geostationary and Non-Geostationary Satellites) (\*SNT)*

- (1) For a space receiving station with one antenna indicated in the RAD field:
  - a. Enter the identifying code REMnn \*SNT followed by a comma.
  - b. In the next four spaces, enter the space

station receiving system noise temperature in degrees Kelvin, using leading zeros as necessary.

*Example:*

REM04 \*SNT,0060

(2) For applications involving a receiving space station for which multiple antennas are indicated in the RAD field:

- a. Enter the identifying Code REMnn \*SNT followed by a comma.
- b. In the next four spaces, enter the noise temperature of the receiving system using the first antenna listed in the RAD field, using leading zeros as necessary.
- c. Enter a comma.
- d. In the next four spaces, enter the noise temperature of the receiving system using the second antenna listed in the RAD field, using leading zeros as necessary.
- e. Enter a comma.
- f. In the next four spaces, enter the noise temperature of the receiving system using the third antenna listed in the RAD field, using leading zeros as necessary.

*Example:*

REM04 \*SNT,0200,0305,0150

A receiving space station with three antennas indicated in the RAD field with receiving system noise temperatures of 200, 350, and 150 degrees Kelvin respectively for the first, second, and third antenna indicated in the RAD field.

(3) When multiple receiving space stations are indicated on the same application, the receiving system noise temperature shall be indicated as above for each receiving space station on separate lines followed by the receiver (R01, R02, etc.) for the space station involved.

*Examples:*

REM02 \*SNT,0200,0350R01

REM04 \*SNT,0400R02

The noise temperature of the receiving systems for the space station R01 of the RAL field are 200 for the first antenna indicated in the RAD field and 350 for the second antenna. The noise temperature of the receiver system for the space system R02 of the RAL field is 400.

(4) If any, but not all, of the space station(s) noise temperatures are classified, separate CIRCUIT REMARKS entries must be made for the classified and unclassified data in order to comply with the requirements of subparagraphs cc (Classified Data Fields (\*CLD)) and dd (Unclassified Data Fields (\*CLU)) of paragraph 39 of this section.

*q. Orbital Information on Non-Geostationary Satellites (Transmitting and Receiving) (\*ORB)*  
For applications involving a single non-geostationary satellite or multiple non-geostationary satellites having similar orbital characteristics:

a. Enter the identifying Code REMnn \*ORB followed by a comma.

b. In the next four spaces, enter the equatorial inclination angle in degrees, using leading zeros as necessary and a decimal with fractional degrees. In the next two spaces, enter the letters IN.

c. In the next five spaces, enter the apogee in kilometers, using leading zeros as necessary. In the next two spaces, enter the letters AP.

d. In the next five spaces, enter the perigee in kilometers, using leading zeros as necessary. In the next two spaces, enter the letters PE.

e. In the next six spaces enter the period, using leading zeros as necessary and a decimal for a fractional unit. If the period is less than 24 hours, enter the period in hours followed, in the next space, by the letter H; if 24 hours or more,

enter the period in days followed in the next space, by the letter D.

f. In the next two spaces enter the number of satellites in the system, using a leading zero as necessary. In the next two spaces, enter the letters NR.

g. In the next three spaces, enter T01 for a non-geostationary transmitting satellite and R01, R02, etc. for each non-geostationary receiving satellite if the orbital information is for space-to-space transmissions. Entry is optional for other than space-to-space transmissions.

*Example:*

\*ORB,68.8IN40765AP00465PE12.283H01NR

One satellite in the system having orbital characteristics as follows: 68.8° inclination, 40,765 kilometer apogee, 465 kilometer perigee, 12.283-hour period.

For applications with multiple receiving space stations, indicate the orbital information for the satellite of each receiving space station in the Circuit Remarks, followed by the receiver involved (R01, R02, etc.).

*Examples:*

R	E	M	0	1
*ORB,68.2IN06900AP00239PE022.05				
H02NRR01				

R	E	M	0	2
*ORB,72.9IN03209AP00655PE013.46				
H01NRR02				

The orbital characteristics of the two satellites having similar characteristics specified in RAL field R01 are as follows: 68.2° inclination, 6,900 kilometer apogee, 239 kilometer perigee, 22.05-hour period. The orbital characteristics of the one satellite specified in the RAL field R02 are

as follows: 72.9° inclination, 3,209 kilometer apogee, 655 kilometer perigee, 13.46-hour period.

h. If any, but not all, of the orbital data are classified, separate CIRCUIT REMARKS entries must be made for the classified and unclassified data in order to comply with the requirements of subparagraphs cc (Classified Data Fields (\*CLD)) and dd (Unclassified Data Fields (\*CLU)) of paragraph 39 of this section. If the data for a non-geostationary transmitting satellite are included in separate entries because of classification, enter T01 in the last three characters of each entry. If the data for non-geostationary receiving satellites are included in separate entries because of classification, enter the appropriate receiving satellite designator R01, R02, etc., in the last three characters of each entry.

*r. Earth Station Receiving System Noise Temperature (\*RNT)*

(1) For applications containing a single receiving earth station:

a. Enter the identifying code REMnn \*RNT followed by a comma.

b. In the next four spaces, enter the earth station receiving system noise temperature in degrees Kelvin, using leading zeros as necessary.

*Example:*

REM03 \*RNT,0060

The receiving system of the earth station indicated on this application has a noise temperature of 60° Kelvin.

(2) For applications containing multiple receiving earth station locations, enter the noise temperature for each earth station followed by the receiver involved (R01, R02, etc.) using commas to separate data for each earth station.

*Example:*

REM02 \*RNT,0060R01,0100R02

The receiving system noise temperatures for the two receiving earth stations indicated on the applications are 60° Kelvin for the station in RAL field R01 and 100° Kelvin for the station in RAL field R02.

(3) For those applications containing multiple receiving locations, if any, but not all, of the earth stations receiving system noise temperatures are classified, separate CIRCUIT REMARKS entries must be made for the classified and unclassified data in order to comply with the requirements of subparagraphs cc (Classified Data Fields (\*CLD)) and dd (Unclassified Data Fields (\*CLU)) of paragraph 39 of this section.

*s. Equivalent Satellite Link Noise Temperature (\*ENT)* (See definitions in Section 6.1.1 for Equivalent Satellite Link Noise Temperature and for Satellite Link.)

(1) This entry is required for each receiving earth station indicated on the application which receives signals from a space station using a frequency changing transponder. Caution should be exercised to ensure that the lowest equivalent satellite-link noise temperature is entered. All satellite links which involve the receiving earth station and the frequency indicated on the application must be considered in determining the lowest equivalent satellite link noise temperature.

(2) For applications containing a single receiving earth station:

a. Enter the identifying code REMnn \*ENT followed by a comma.

b. In the next four spaces enter the lowest equivalent satellite link noise temperature in degrees Kelvin, using leading zeros as necessary, taking into consideration all satellite links received by the earth station on the frequency indicated.

*Example:*

REM02 \*ENT,0096

The lowest equivalent satellite link noise temperature associated with the earth receiving station for any satellite link using this frequency is 96° Kelvin.

(3) For applications with multiple receiving earth station locations, enter the lowest equivalent satellite link noise temperature in degrees Kelvin, taking into consideration all satellite links received by the earth station, followed by R01, R02, etc. for the earth receiving station involved, using commas to separate data for each receiving earth station.

*Example:*

REM04 \*ENT,0060R01,0170R02

This application has two receiving earth stations. The equivalent satellite link noise temperature is 60° Kelvin for the station in RAL field R01 and 170° Kelvin for the station in RAL field R02.

(4) For those applications containing multiple receiving locations, if any of the equivalent satellite link noise temperatures, but not all, are classified, separate CIRCUIT REMARKS entries must be made for the classified and unclassified data in order to comply with the requirements of subparagraphs cc (Classified Data Fields (\*CLD)) and dd (Unclassified Data Fields (\*CLU)) of paragraph 39 of this section.

*t. Antenna Gain and Beamwidth Requiring Additional Spaces (Earth and Space Stations) (\*EGN, \*SGN, \*EBW, \*SBW)*

(1) The antenna gain for transmitting and receiving earth and space stations is entered in the transmitter and receiver ANTENNA DIMENSIONS fields. Two spaces are available for the value and one space for the letter G. If more than two spaces are required for value, XXG is

entered in the ANTENNA DIMENSIONS field and the value is entered in the CIRCUIT REMARKS field following \*EGN (for earth stations) or \*SGN (for space stations), for example, \*EGN,-12 or \*SGN,-05. For applications with multiple receiving stations with different gain values, the entry in the CIRCUIT REMARKS field is followed by R01, R02, etc., to identify the receiving station involved.

(2) Similarly, the antenna beamwidth for transmitting and receiving earth and space stations is entered in the transmitter and receiver ANTENNA DIMENSIONS fields. Three spaces are available for the value and one space for the letter B. If more than three spaces are required for the value, XXXB is entered in the ANTENNA DIMENSIONS field and the value is entered in the CIRCUIT REMARKS field following \*EBW (earth) or \*SBW (space), for example, \*EBW, 1.25 or \*SBW, 1.45. For applications with multiple receiving stations with different beamwidths, the entry in the CIRCUIT REMARKS field is followed by R01, R02, etc. to identify the receiving station involved.

*u. System Identifier (\*SYS)*

(1) The System Identifier (\*SYS) is used to show the primary function or purpose of the frequency assignment. This entry shall not restrict the applicant from using the frequency for other purposes as circumstances warrant, nor shall the applicant be required to obtain FAS approval before changing the functional use of the assignment. However, the user *shall* be expected to correct the \*SYS entry, if appropriate, whenever the assignment is modified or updated. The name of the private carrier will be included in the \*SYS field when requesting a frequency assignment in the frequency bands below identified by \*\*.

(2) This entry is comprised of:

- (a) the identifying code \*SYS,
  - (b) a function name selected from the list in paragraph (5) below, and
  - (c) optional amplifying information.
- (3) An \*SYS entry is required if:

(a) the frequency assignment falls within one of the following bands:

29.89-50.00 MHz\*  
 162.0-174.0 MHz  
 406.1-420.0 MHz  
 806.0-824.0 MHz\*\*  
 851.0-869.0 MHz\*\*  
 896.0-901.0 MHz\*\*  
 935.0-940.0 MHz\*\*

\*Limited to exclusive Government Bands.

\*\*Limited exclusively to the Specialized Mobile Radi (SMR) service (see 8.2.49).

and

(b) the assignment does *not* bear Record Notes S141 nor S322.

(4) At the option of the applicant, the \*SYS entry may also be used with assignments which do not meet the above criteria.

(5) The following is a list of function names authorized for use with the \*SYS entry:

### Function Name/General Description

**ADMINISTRATIVE**--Used for administrative management of personnel and/or material.

**AIR TRAFFIC CONTROL**--Used for ground-air and air-ground voice communications dedicated to controlling the movement of aircraft.

**BACKBONE**--Used for multiple-function point-to-point communications where landline systems are not available.

**COMMANDER**--Used by commanders at other than top executive echelons to directly command and control operations.

**CONSTRUCTION**--Used to support construction activities (e.g. road building, erection of power lines, construction of dams or bridges, etc.).

**CONTINGENCY**--Used only during unusual situations (e.g. civil disturbances, communications outages, natural disasters, etc.), and kept in service only for the duration of the contingency.

**EXECUTIVE**--Used by the top echelon leadership of a government agency (e.g. normally used at department level and above where strategic policy is formulated).

**FIRE**--Used to notify the presence of a fire, or to direct control, or coordinate the operations of fire response vehicles, equipment, and personnel during fire suppression or fire prevention activities.

**HYDROLOGIC**--Used for collection of information regarding the waters of the earth and its atmosphere, or for the control and management of these waters.

**INSPECTION**--Used during brief and infrequent visits to

field sites and installations by inspection teams (e.g. operational readiness inspections, facility evaluations, Inspector General visits, etc.).

**LAW ENFORCEMENT**--Used to direct, control, or coordinate the activities of personnel engaged in law enforcement duties (e.g. building and installation security, criminal investigations, police activities, intelligence and counter-intelligence operations, intruder detection, etc.).

**MAINTENANCE**--Used to support maintenance activities (e.g. resurfacing of roads, maintenance of power lines, repair of dams or bridges, etc.).

**MEDICAL**--Used to direct, control, or coordinate the activities of medical personnel and emergency response vehicles.

**MISC**--Used to support a function not shown elsewhere on this list. (Note: See paragraph (6) below for additional instructions.)

**MOBILE TELEPHONE**--Used to provide an interconnection between vehicular radios and landline systems.

**NATURAL RESOURCES**--Used for the management, protection, and conservation of natural resources (e.g. national forests, public lands, wildlife, etc.).

**NAVAIDS**--Used to furnish navigational assistance to aircraft or ships (e.g. instrument landing system (ILS), nondirectional beacon (NDB), long-range navigation (LORAN), etc.).

**NAVAIDS CONTROLS**--Used to activate and deactivate visual or electronic navigational aids (e.g. runway lights, radio beacons, unmanned lighthouses, etc.).

**PAGING**--A one-way communications system used for selective calling of personnel. (Note: Although paging systems may be used in direct support of functions shown on this list, such as EXECUTIVE or MEDICAL, all paging assignments shall show PAGING as the function name.)

**RDTE SUPPORT**--Used for communications support of research, development, test, and evaluation (RDTE) programs and projects.

**SEISMIC**--Used to transmit measurements of stress, strain, or movements of the earth's crust.

**SMR**--A Specialized Mobile Radio system in which private carriers provide land mobile communications service in the 806-824, 851-869, 896-901, and 935-940 MHz band on a commercial basis to end users.

**SPECIAL COURIER**--Used by personnel engaged in transporting valuable, sensitive, hazardous, or classified material.

**SPECIAL PROJECTS**--Used in support of communications electronics systems which are generally one-of-a-kind systems (e.g., special forces, intelligence, RF propagation systems, ground and avionics communications-electronics weapons systems, etc.).

**SURVEY**--Used on an intermittent basis by field survey teams involved in measurement activities (e.g. geodetic surveys, radiation hazard monitoring, pre-construction site surveys, etc.).

**TELECOMMAND**--Used to remotely control the operations of an unmanned vehicle (land, sea, air, or space), or to activate

and deactivate instruments or devices carried by the vehicle (e.g. missile destruct, guidance of remotely-piloted vehicles (RPV's), control of overhead cranes, etc.).

**TEST RANGE**--Used in support of operations which are unique to a government test range (e.g. range control, range safety, range timing, etc.).

**TRAINING**--Used to train personnel in the accomplishment of a specific task or set of tasks.

**TRANSPORTATION**--Used to coordinate the routine movement of material and/or personnel from one point to another (e.g. messenger service, supply expeditor, tax dispatch, etc.).

**TRUNKING**--Radio telephony using standard land mobile trunking principles.

**UTILITIES**--Used for the management, control, and/or distribution of utilities (e.g. electric power, water, telephone service, oil and gas, etc.).

**WEATHER**--Used for the transmission of meteorological information (e.g. wind speed, temperature, barometric pressure, forecasts, etc.).

**WIRELESS MIKE**--A transmitting device used to provide the audio input to a speaker system. (Note: Although wireless mikes may be used in direct support of functions shown elsewhere on this list, such as RDTE SUPPORT or TRAINING, all assignments for these devices shall show WIRELESS MIKE as the function name.)

(6) If none of the function names listed in paragraph (5) accurately reflect the purpose of a specific frequency assignment, enter \*SYS,MISC as the System Identifier, followed by amplifying information describing the function of the assignment. If this particular function will be used on a recurring basis, the applicant will submit a letter to the FAS Secretary requesting that a new function name be added to the list. The letter should contain the proposed function name, as well as a brief description of the function.

(7) If the assignment will be used for more than one purpose, select the function which is most important to the applicant's mission. If two or more functions are equally important, choose the one which will make most use of the assigned frequency. Amplifying information may then be entered to show the other function(s) supported by the assignment.

(8) Except for those few cases (FIRE, MEDICAL, etc.) where the purpose can be completely understood from the function name itself, the spaces following the function name should be used to record amplifying information which

will more precisely identify the purpose of the assignment.

(9) Compose the \*SYS entry as follows:

(a) Beginning in the first space, insert the identifying code \*SYS.

(b) Insert a comma in the fifth space.

(c) Immediately following the comma, insert one of the function names exactly as it appears in paragraph (5).

(d) If amplifying information is to be entered, insert a comma after the function name and use the remaining spaces to record the amplifying data.

(e) All \*SYS data must be contained in a single horizontal line (40 spaces).

*Examples:*

\*SYS,FIRE

\*SYS,CONSTRUCTION,MAINTENANCE

\*SYS,TRANSPORTATION,TAXI

DISPATCH

\*SYS,MISC,BALLOON RECOVERY  
OPERATIONS

*v. Mexican Coordination Data (\*MEX)*

(1) The information in this field is normally those comments that were added based on FAS ADM 800118, dated June 16, 1980. These comments are:

\*MEX,21311, IRAC, MAR 1980, MAY 1980 GMF

(2) As these comments indicate that this record was provided to Mexico for coordination in the original list, do not delete this entry when updating the assignment. If a record replacement action is used, and the frequency and/or location does not change, the docket numbers of the older authorization should be retained in the circuit remarks (see subparagraph 39g, \*DOC).

(3) Agencies may also use this field to enter coordination comments based upon actual coordination with Mexico.

(4) Use this field by inserting the identifying

code REMnn followed by a space, then \*MEX followed by a comma, then the data.

*w. U.S. Coordination Comments on Canadian and Mexican Proposals (\*USA)*

(1) Proposals for frequency coordination from Canada (and at some future date from Mexico) are processed through the automated FAS agenda system. When coordination is completed, the records are added to the Government Master File (GMF) with the U.S. coordination comments indicated on the record by the code \*USA followed by NHIA or NHIC.

(a) NHIA means no harmful interference is anticipated either to or from the proposals.

(b) NHIC means no harmful interference is anticipated, but additional information or a noting comment pertinent to the coordination is include.

(2) See Section 9.16.3 for instructions on formatting and voting \*USA comments.

*x. FCC File Number (\*FLN)*

This entry is used to identify an FCC File Number of an application received or license issued to a non-Government entity allowed to use either an NTIA-authorized frequency or a U.S. Government radio station on a frequency licensed by the FCC.

(1) Insert REMnn followed by a space and the identifying code \*FLN followed by a comma.

(2) Immediately following the comma insert the FCC file number.

*y. Name, or Personal Identifier and Position, of Original Classification Authority (\*CLA)*

(1) This field is used to identify, by name, or by personal identifier and position, the original classification authority for classified data. This entry shall be included for all classified applications for which the classification was originally applied by the applicant and was not determined from derivative methods.

(2) Enter the field code **REMnn** followed by a space. Following the space, enter the code

**\*CLA** followed by a comma. Immediately after the comma, enter the name, or personal identifier and position, of the original classification authority, or the statement **EXCLUDED,1.7.B** if entry of this information falls under the exclusion provision of E.O. 12958, Section 1.7.(b).

*Example:*

REM04 \*CLA,ASD,CCCI,DOD

REM02 \*CLA,COMDR,12AF,USAF"

REM05 \*CLA,JOHN MCCLELLAN,AA, NTIA,DOC

REM03 \*CLA,EXCLUDED,1.7.B

*z. Derivative Classification Authority (\*CLF)*

(1) This field is used to identify the source document, or classification guide, used as the basis for derivatively classifying data in a frequency assignment. This entry shall be included in all applications that are derivatively classified or contain a declassification instruction of OADR in the data field CDD, and shall be composed such that the source document or classification guide can be readily identified. Use more than one entry if necessary.

(2) Enter the field code **REMnn** followed by a space. Following the space, enter the code **\*CLF** followed by a comma. Immediately after the comma, enter the identity of the source document or classification guide. Include the title, date and agency or organization that published the source document.

(3) In those instances where the original classification authority extends a declassification date in the field CDD beyond the initial 10 year period, this field is used to identify the date the declassification was extended, the individual that approved the extension, and that individual's agency or organization. However, entry of this information is not necessary when the classification is derived from another source and the source is listed in accordance with

subparagraph (2) above.

*Examples:*

REM06 \*CLF,ASD,C3I,MEMO,SUBJ  
WINDOW

REM07 \*CLF,3JULY95  
\*\*\*\*\*

REM04 \*CLF,B-1B SCG,930815,  
OC-ALC/LAB  
\*\*\*\*\*

REM10 \*CLF,NTIA SCG FOR FREQ  
ASSIGNMENT

REM11 \*CLF,RECORDS,821108,  
ASCI (NTIA),DOC

*aa. Reason for Classification (\*CLR).*

(1) This field is used to cite the category, or categories, of E.O. 12958, Section 1.5, that the original classification authority determined to be the reason(s) frequency assignment data in the assignment must be classified. This entry shall be included in all classified applications, except those classified derivatively, for which entry is optional.

(2) Enter the field code **REMnn** followed by a space. Following the space, enter the code **\*CLR** followed by a comma. Immediately after the comma, enter the code **1.5**, followed immediately by one, some or all of the letters **a**, **b**, **c**, **d**, **e**, **f** or **g**, to represent the classification categories listed in E.O. 12958, Section 1.5. If more than one category letter is entered, enter the letters in alphabetical order.

*Example:*

REM05 \*CLR,1.5ABCD"

*bb. Extended Declassification Date (\*CDE).*

(1) This field is used to enter the declassification date for "permanently valuable" information when the field CDD contains an entry in the range DE25X2 - DE25X9.

(2) Enter the field code **REMnn** followed by a space. Following the space, enter the code

**\*CDE** followed by a comma. Immediately after the comma, enter the declassification date in year, month and day (YYMMDD) order.

*cc. Classified Data Fields (\*CLD).*

(1) This field is used to identify those data fields in an assignment that are classified. This entry shall be included in all classified applications.

(2) Enter the field code **REMnn** followed by a space. Following the space, enter the code **\*CLD** followed by a comma. Immediately after the comma, enter the mnemonic(s) (and occurrence number of multiple occurring fields) of the classified data field(s). If more than one mnemonic is entered, separate each with a comma.

(3) Use as many entries of **\*CLD** as necessary to list all classified data fields.

(4) The entry for Supplementary Details will always be SUP (See paragraph 80, subparagraph j, of this section.).

*Example:*

REM09 \*CLD,EMS01,PWR01,EMS02,  
PWR02,SUP

*dd. Unclassified Data Fields (\*CLU).*

(1) This field is used to identify those unclassified frequency assignment data fields in a classified assignment. This entry shall be included in all classified applications.

(2) Enter the field code **REMnn** followed by a space. Following the space, enter the code **\*CLU** followed by a comma. Immediately after the comma, enter the statement **ALL DATA FIELDS NOT LISTED IN \*CLD** if there are unclassified data fields, or the statement **NO UNCLASSIFIED DATA FIELDS** if there are no unclassified data fields.

**40. Serial Replaced (SRS) and Serial Replaced Expiration Date (SEX)**

*a. General Rules*

(1) These two fields may be used to delete

from the Government Master File one or more (maximum of nine) existing assignments simultaneously with a NEW or NOTIFICATION Action. If a New or NOTIFICATION Action is intended as a replacement for existing assignments, an entry for each replaced assignment is made in the SERIAL REPLACED (SRS) field and the SERIAL REPLACED EXPIRATION DATE (SEX) field.

(2) The assignment record to be deleted will be automatically converted to a temporary assignment with an expiration date corresponding to the date entered in the SEX field. It will be printed on the FAS agenda immediately following the new or notified record to which it refers. The new or notified action and the assignment to be deleted will appear in the Government Master File until the date entered in the SEX field has passed, at which time the latter will be deleted.

(3) Each entry in the SERIAL REPLACED (SRS) field must have a corresponding entry in the SERIAL REPLACED EXPIRATION DATE (SEX) field.

(4) If no assignment record is to be deleted, these fields shall be left blank.

*b. Serial Replaced (SRS) (10 Characters--9 Occurrences)*

Enter the identifying code SRSnn followed by the Serial Number of the assignment being replaced as it is shown in the Government Master File (GMF).

*Examples:*

SRS01 AF 761234  
SRS09 NASA783456

*c. Serial Replaced Expiration Date (SEX) (6 Characters--9 Occurrences)*

Enter the identifying code SEXnn followed by the desired date of deletion in year-month-day order. The date shall not exceed one year from the date of the application.

*Examples:*

SEX01 880615  
SEX09 880915

**41. FOI--Exempt From FOIA (1 Character-1 Occurrence)**

This field is used for identifying those UNCLASSIFIED assignments determined by the submitting agency's FOIA Officer to be exempt from release in accordance with the provisions of the Freedom of Information Act, 5 U.S.C. 552, as amended. Enter the letter X in this field if the assignment is exempt from release.

**42-78. (Reserved)**

**79. Frequency Assignment Subcommittee (FAS) (72 Characters--5 Occurrences)**

The FAS field shall be used to provide information that will not be recorded in the GMF. This field is used for information of value only to FAS Representatives and relevant only while the frequency assignment action remains on the FAS agenda. This data will not be recorded in the GMF.

*Examples:*

FAS01 THIS IS A RENEWAL OF AN EXISTING AUTHORIZATION.

FAS03 ROUTINE UPDATE. 5-YEAR REVIEW.

FAS01 TELEPHONE ACTION REQUESTED.

FAS05 AGA COORD WITH SMITH/NTIA, 8/1/85.

**80. Supplementary Details (SUP) (72 Characters-15 Occurrences)**

The SUPPLEMENTARY DETAILS (SUP) data field may contain an explanation of the proposed operation and supplemental data as required below.

a. *Experimental Station Classes:* If the appli-

cation is for an assignment to an experimental station, insert information to further describe the intent or nature of the experimental operation (see Part 6.4).

**b. Canadian Coordination:**

(1) If Canadian coordination is required or desired, any amplifying data to be forwarded to Canada shall be entered in the SUPPLEMENTARY DETAILS in the following format:

(CANCOR . . . .);

*Examples:*

(CANCOR USE ALONG BORDER IS OCCASIONAL)  
(CANCOR REF U.S. SERIAL I8190001)  
(CANCOR NOTE 172.9 MHZ, U.S. SERIAL 760001)

The abbreviation CANCOR must immediately follow the initial parenthetic character. Only the data following "CANCOR" and preceding the closing parentheses sign will be forwarded to Canada.

(2) In addition to any other amplifying data, the following information is to be furnished Canada using the procedure in 80.b.(1) above:

(a) If abbreviations have been used in the transmitter and/or receiver Antenna Location fields, and complete spelling is not readily apparent, enter the complete spelling.

(b) If the frequency has been coordinated previously with Canada for use in the same geographic area, insert the U.S. Serial Number of the previous coordination as it appears on the \*CAN line in the Circuit Remarks of the GMF assignment being cited.

(c) If an expeditious reply from Canada is necessary, insert EXPEDITIOUS REPLY REQUESTED.

(d) If the application is for operations in two or more States along the border and S322 has not been inserted in the NOTES field, insert additional data to inform Canada of the extent to

which the frequency will be used.

(e) Specify alternative frequencies, if desired:

*Example:*

(CANCOR ALTERNATE FREQUENCY  
172.9 MHZ)

Canada will comment on the alternate frequency(ies) only when adverse comments are provided on the primary frequency.

(f) While an application is Tabled on the FAS agenda during the Canadian coordination process, an agency may use the SUPPLEMENTARY DETAILS (SUP) field to request reconsideration of an adverse comment made by Canada. On the next available SUP line using the format (CANCOR ), an agency shall request reconsideration of the Canadian comment and provide rationale for the request.

*Examples:*

(CANCOR. Rqst reconsideration based on 120 kilometer separation)

(CANCOR. Rqst reconsideration with antenna changed to 7dB yagi and noting adjacent channel offset of 12.5 kHz)

(CANCOR. Rqst reconsideration with FRQ changed to M163.0)

See Part 9.16 for submitting FAS agenda corrections.

**c. Fixed Station and Transportable Transmitting Earth Station Coordination:**

(1) If the application is for an assignment to a transportable *Earth* station in the band 7900-8400 MHz or to a fixed (FX) station in the bands 1710-1850, 2200-2290, 4400-4990, 7125-7250, 7300-7975, or 8025-8400 MHz whereby the requirement involves a communications system consisting of more than two stations that are interconnected (excluding stations to be used for transportable operation--

Note S362), and a data plot or coordination contour map was circulated, enter the notation “data plot circulated” or “contour map circulated,” as applicable in the Frequency Assignment Subcommittee (FAS) field (see Section 9.2.4 for details).

(2) If a data plot or coordination contour map was not circulated and successful coordination was effected with all agencies concerned, insert a statement to indicate that this coordination determined data plots and/or coordination contour maps were not required.

d. *Transportable Receiving Earth Station:* If the application is for transportable *Earth* stations in the band 7250-7750 MHz, insert a statement indicating that power flux density (PFD) at earth surface will not exceed the limits listed in Section 8.2.36.

e. *Frequency Diversity:* Applications for frequencies to be used in the frequency diversity mode of operation shall contain a statement of justification consistent with the provisions of Section 8.2.25. Frequency diversity applications for each individual radio path shall be cross-referenced by frequency, and the statement of justification shall be included in the SUPPLEMENTARY DETAILS field of each application.

f. *Sounder Stations:* If the application is for a sounder network or a sounder prediction station, insert a statement indicating that it has been determined no existing authorized ionospheric sounder transmitter is capable of meeting the requirement (see Section 8.2.21).

g. *Notification Actions:*

(1) For notification under the authority of Part 7.12, insert information to identify the coordination correspondence with the FCC regarding the proposed operation.

(2) If the application is a notification of a telecommunications laser, describe the function and purpose of the operation.

h. *Emission Symbol Explanation:*

If the letter X is used in either of the first, second, or third emission designator symbol(s) (see Section 9.8.2, paragraph 16e(2)(a), (b), and (c)) an explanation of emission characteristics must appear in the Supplementary Details.

i. *Separate System Justification:*

For assignments for land mobile systems that are within 30 km of an existing or planned trunked land mobile system authorized by NTIA, provide the information required under subparagraph 8.2.48a.

j. *Classification of Supplementary Details:*

NTIA compresses this data field in order to preserve total assignment record size, and the information is treated as a single paragraph. Individual marking of separate line occurrences for the purposes of complying with paragraph 39, subparagraphs cc and dd, is not possible. Therefore, if any of the information entered in Supplementary Details is classified, the entire Supplementary Details entry becomes classified.

## 9.9 USE OF THE CARD FORMAT FOR MODIFICATION, RENEWAL, AND DELETION ACTION

1. The Card Format with the COMMAND CARD “\$\$MOD” is used only with MODIFICATIONS (see Section 9.7.2, paragraph 12, and below).

2. The Card Format with the COMMAND CARD “\$\$CHG” is used for the following purposes:

a. **MODIFICATION (M)**--To apply for the addition, substitution, or removal of one or more of the particulars, other than the frequency, the agency serial number, or the transmitter state/country, of an existing frequency assignment which is in the Government Master File (GMF). No more than 60 data fields of a particular assignment can be modified at one time (see Section 9.7.1, (subparagraph C)).

b. RENEWAL (R)--To apply for the extension of the period of a temporary or trial assignment which is in the GMF (see Part 9.6) and to simultaneously update other particulars of the assignment.

c. DELETION (D)--To apply for the cancellation of a frequency assignment and the removal of all its particulars from the GMF.

3. The COMMAND CARD \$\$CHG may not be used to take action on the AGENCY SERIAL NUMBER, the transmitter STATE /COUNTRY, or the FREQUENCY fields.

## 9.10 USE OF FIELD CODES

Only the following field codes may be used for actions containing a \$\$CHG or \$\$MOD COMMAND CARD. The field code and occurrence number is used to identify the data field(s) which the applicant desires to address (see Section 9.7.1).

Field Title	Field Code
-------------	------------

Action Number	ACN
Receiving Station Call Sign	ACL

Field Title	Field Code
-------------	------------

Bureau	BUR
Circuit Remarks	REM
Classification	CLA
Date	DAT
Declassification Date	CDD
Emission	EMS
Expiration Date	EXD
Exempt From Release IAW FOIA	FOI
Frequency Assignment Subcommittee	FAS
International Coordination Indicator	ICI
*Listed Frequency	LFQ
Missing Data Indicator	MSD
Net Control	NET
Notes	NTS
Power	PWR
Power Density	SPD
Receiver Antenna Dimensions	RAD
Receiver Antenna Latitude	RLA
Receiver Antenna Location	RAL
Receiver Antenna Longitude	RLG
Receiver Antenna Polarization	RAP
Receiver Antenna Orientation	RAZ
Receiver Control	RRC

Receiver State/Country	RSC
**Review Year	RYR
Routine	RTN
Supplementary Details	SUP
Station Class	STC
Time	TME
Transmitter Antenna Orientation	XAZ
Transmitter Antenna Dimensions	XAD
Transmitter Antenna Latitude	XLA
Transmitter Antenna Location	XAL
Transmitter Antenna Longitude	XLG
Transmitter Antenna Polarization	XAP
Transmitter Call Sign	XCL
Transmitter Control	XRC
Type of Action	TYP

\*Used as a reference only--the data will not be changed.

\*\*See Annex F and Part 9.15.

*Example:*

```

$$CHG I 791882
TYP01 M
DAT01 791105
EMS03 20KF2B

```

indicates that the applicant desires to change the third emission in the GMF record I 791882 to 20KF2B.

## 9.11 PREPARATION OF THE CARD FORMAT FOR A MODIFICATION ACTION

1. Before submitting a Modification action, read Parts 9.7 and 9.9.

2. Assignments which have been previously coordinated with the Canadian Department of Communications pursuant to Part 3.4 may be modified without being re-coordinated with Canada provided the modification will not increase the probability of harmful interference. If the Modification will increase the probability of harmful interference, the assignment must be re-coordinated with Canada.

3. The deletion of an entry in the EMISSION field, in the POWER field, or in the STATION CLASS field, requires a corresponding deletion be made in the other two fields.

4. Prepare the application for the Routine

portion of the FAS agenda, according to the instructions below, when the modification:

--Does not increase the probability of harmful interference, and

--Does not extend or delete the expiration date.

Enter RTN01 followed by one of the letters A, M, or R:

--Enter A if the assignment is in the AAG band (see Section 9.14.1).

--Enter M if the assignment is in the MAG band (see Section 9.14.2).

--Enter R if the assignment is neither in the AAG nor MAG bands. The letter R will be automatically entered by the computer in the ROUTINE field if the following conditions are met:

a. the frequency assignment being modified is not within the AAG or MAG bands (see 9.14.1 and 9.14.2); AND

b. the existing assignment has or is being modified by adding one of the following:

L192 S035 S348  
L197 S160  
L199 S279

or

c. the following fields are modified, added or deleted either alone or in conjunction *only* with each other--

DAT	BUR	*AGN	*PRR	XLA <sup>1</sup>
LFQ	XRC	*DOC	*JNT	XLG <sup>1</sup>
ACN	TME	*EQT	*CAN	RLA <sup>1</sup>
CLA	XCL	*EQR		RLG <sup>1</sup>
NET	RRC	*EQS		
RYS	ACL			
FOI				

<sup>1</sup> If movement is less than 8 kilometers.

5. The following card formatting rules apply:

a. Each MODIFICATION requires:

(1) the COMMAND CARD:

\$\$CHG or \$\$MOD (Enter the serial number of the assignment being modified as it is recorded in the GMF)

(2) the TYPE OF ACTION (TYP) Card:

TYP01

(3) the DATE (DAT) Card:

DAT01 (Enter the date (year/month/day) on which the application is prepared. Use numeric characters only; leave no blanks.)

(4) the data field and data being modified.

(a) Insert in the first three spaces the code for the field being modified. The codes are listed in Part 9.10. Insert in the last two spaces the occurrence number for that portion of the field being modified, as entered in the Government Master File. For example, insert EMS02 for the emission shown in the list on the second line of the EMISSION FIELD.

(b) Insert the new data that are to appear in the Government Master File as replacements for those entered under LISTED DATA. Enter the data in the same manner as prescribed in Part 9.8.

(c) If the data are to be deleted from the field being modified, enter the field code and leave the data field blank.

b. All other data fields listed in Part 9.10 may be used at the option of the applicant.

(1) *Agency Action Number (ACN) (10 Characters--1 Occurrence)* The format of the entry shall be identical to the Agency Serial Number (SER) as specified in Section 9.8.2.

(2) *Listed Frequency (LFQ) (11 Characters--1 Occurrence)* If used the field must contain the frequency which is in the GMF assignment referenced by the Serial Number as contained in the \$\$CHG card.

(3) *Supplementary Details (SUP) (72*

Characters--15 Occurrences)

Agencies will review the SUPPLEMENTARY DETAILS for each assignment being modified to insure the data are correct and current. Comments relating to routine modifications (change of Bureau, Net, equipment, etc.) are not required and must be removed from the record. Agencies shall not reiterate the modification action in SUP. However, enter comments if the modification is to an assignment that must be RE-CO-ORDINATED with Canada. Insert (CANCOR REFERENCE US SERIAL XXXXX followed by information to rationalize the re-coordination).

*Example:*

SUP01 (CANCOR REFERENCE US SERIAL  
I8031849. INCREASE POWER.)

## 9.12 PREPARATION OF THE CARD FORMAT FOR A RENEWAL ACTION

1. Before submitting a RENEWAL action, read Section 9.7.1 and Part 9.9.

2. The following card formatting rules apply:

a. Each RENEWAL action requires:

(1) the COMMAND CARD:

\$\$CHG (Enter the serial number of the assignment being renewed as it is recorded in the GMF)

(2) the TYPE OF ACTION (TYP) Card:

TYP01 R

(3) the DATE (DAT) Card:

DAT01 (Enter the date (year/month/day) on which the application is prepared. Use numeric characters only; leave no blanks.)

(4) the DATA CARD EXD:

EXD01 880615

For the renewal of temporary assignments, the new date is not to exceed five years hence.

(5) Updates to other particulars of the assignment, e.g., REM06 \*SYS, SURVEY

b. The ROUTINE (RTN) data field may not be used for renewal applications unless the assignment contains at least one of the following Notes: L192, L197, L199, S035, S160, S279, S348.

## 9.13 PREPARATION OF THE CARD FOR- MAT FOR A DELETION ACTION

1. Before submitting a DELETION action, read Section 9.7.1 and Part 9.9.

2. The following card formatting rules apply:

a. Each DELETION action requires:

(1) the COMMAND CARD:

\$\$CHG (Enter the serial number of the assignment being deleted as it is recorded in the GMF)

(2) the TYPE OF ACTION (TYP) Card:

TYP01 D

(3) the DATE (DAT) Card:

DAT01 (Enter the date (year/month/day) on which the application is prepared. Use numeric characters only; leave no blanks)

b. Only the following optional data fields may be submitted on a DELETION action:

(1) Agency Action Number (ACN)

(2) Listed Frequency (LFQ)

## 9.14 APPLICATIONS CONSIDERED BY THE AERONAUTICAL ASSIGNMENT GROUP (AAG) AND THE MILITARY ASSIGNMENT GROUP (MAG)

### 9.14.1 Applications Considered by AAG

1. The Aeronautical Assignment Group

(AAG) is responsible for engineering AAG frequency assignments and determining whether or not applications for frequency assignment action in the following bands should be approved by NTIA.

190-285 kHz  
 285-435 kHz\*  
 510-535 kHz\*  
 74.800-75.200 MHz  
 108.000-121.9375 MHz  
 123.5875-128.8125 MHz  
 132.0125-136.000 MHz  
 328.600-335.400 MHz  
 978-1020 MHz inclusive  
 1030 MHz  
 1031-1087 MHz inclusive  
 1090 MHz  
 1104-1146 MHz inclusive  
 1157-1213 MHz inclusive  
 5000-5250 MHz

*\*In these bands only applications for stations in the Aeronautical Radionavigation Service (see Table A, Section 6.1.4) shall be sent to the Chairman of the AAG.*

2. For frequency assignment proposals in the above bands, agencies shall transmit UNCLASSIFIED applications to NTIA via the dial-up telephone microcomputer system. Non-Government applications may be sent directly to the Chairman, AAG, or directly to the NTIA at the option of the FCC FAS Representative; additionally, the requestor's point of contact must be included on the application.

3. Exceptionally, the following types of applications for assignment in the above bands shall be prepared and processed in accordance with the provisions of Parts 9.3 through 9.13.

- a. those which are classified,
- b. those which must be referred to the IRAC (see Part 10.8),
- c. those for space radiocommunication, and
- d. those known to be controversial.

4. Frequency assignment proposals in the above listed bands must be submitted for engineering analysis and review to FAA headquarters or the appropriate FAA regional spectrum

management office. The applicable Coordination Note must be added to the Notes Field (NTS) on each proposal. (See Annex A and Annex D, Table 1). Additionally, the applicant may indicate the date of coordination and the FAA point of contact, and correspondence identification, if applicable, in the FAS data field.

5. After technical evaluation, coordination, and other appropriate action, the Chairman of the AAG as well as other AAG members shall vote their decision via the Automated Voting Procedures, Section 9.16.2.

#### **9.14.2 Applications Considered by MAG**

1. The Military Assignment Group (MAG) is responsible for determining whether or not applications for frequency assignment action in the bands 225.0-328.6 and 335.4-399.9 MHz should be approved by NTIA.

2. For assignment actions involving these bands, agencies will transmit UNCLASSIFIED applications to NTIA via the dial-up telephone microcomputer system.

3. Exceptionally, the following types of applications shall be prepared and processed in accordance with the provisions of Parts 9.3 through 9.13:

- a. those which are classified SECRET,
- b. those which must be referred to the IRAC,
- c. those involving transmissions to or from space, and
- d. those known to be controversial.

4. After technical evaluation, coordination (if necessary), and other appropriate action, the Chairman of the MAG as well as other MAG members shall vote their decision via the Automated Voting Procedures, Section 9.16.2.

#### **9.15 OTHER GOVERNMENT MASTER FILE (GMF) FIELD CODES**

The following field codes are presented for information. Only the field code *RYR* is

addressable in a frequency assignment action (see Parts 9.10 and 9.11 and Annex F.)

a. *AUD--AUTHORIZATION DATE (6 Characters-1 Occurrence)*

The date on which the assignment was originally authorized. The format used in YYMMDD.

b. *AUS--AUTHORIZATION NUMBER (8 Characters)--10 Occurrences)*

(1) This unique number is generated internally by the agenda preparation programs each time an action on a frequency assignment appears on the Frequency Assignment Subcommittee's (FAS) agenda. This is the FAS docket (DKT) number of the action on the FAS agenda.

(2) Up to ten entries (occurrences) are retained in the assignment record in the GMF. The first entry will always be the most current authorization number. If there is more than one entry, the *ORIGINAL* authorization number will always be retained as the *second entry*. When the *AUS* field becomes full (10 occurrences), more room is created by dropping the older, *NON-ORIGINAL*, entries and moving all others down.

c. *MBR--AGENCY MEMBERSHIP (1 Character--1 Occurrence)*

This field designates agency membership in the Frequency Assignment Subcommittee (FAS) community.

- M Voting Member of the FAS
- N Non-Voting/Non-Member of the FAS. NTIA represents these agencies in the FAS.
- O Non-Voting/Non-Member of the FAS. Other FAS Member agencies represent these agencies in the FAS.
- X Non-Voting/Non-Member of the FAS. Canadian and Mexican records in the GMF are currently identified by the letter X.

d. *RVD--REVISION DATE (6 Characters-1 Occurrence)*

The date on which the frequency assignment was most recently revised. The format used is YYMMDD.

e. *RYP--REVIEW YEAR (2 Characters--1*

*Occurrence)*

This field is used ONLY when no other changes are required (all parameters as listed are up-to-date) and it is necessary to indicate a review of an assignment has been completed (see Annex F). (If any change is being submitted to any character of any data field, the RYP need not be submitted.) The RYP field is not retained in the assignment record-it resets the date in the RVD field, which is retained in the GMF.

## 9.16 FAS AGENDA ACTIONS

### 9.16.1 FAS Votes and Agenda Corrections--Directives

1. Directives are changes to a field(s) of a frequency application proposal on the FAS agenda. Directives shall be transmitted to the NTIA/FA&IASD Automated Data Capture System via the telephone dial-up electronic data transfer method.

2. FAS agenda DIRECTIVES shall be prepared in card format, and the following rules apply:

a. A \$\$DIR COMMAND CARD and an AGC01 card are both required for each DIRECTIVE package.

(1) If the DIRECTIVE(s) applies to a single application, or to multiple applications NOT in numerical sequence by Docket Number (DKT), the Command Entry must be on the first line. Enter \$\$DIR, a space, then the docket number (DKT) of the application being addressed.

(2) If an identical DIRECTIVE(s) applies to a series of applications in numerical sequence by docket number, on the first line enter ENDREQ RANGE, a space, the FIRST docket number of the sequence, a slant bar, then the LAST docket number of the sequence. On the second line enter \$\$DIR, a space, then the FIRST docket number of the sequence.

(3) Enter the AGC01 card into the DIRECTIVE package at any place following the

\$\$DIR card. Enter AGC01, a space, then the agency abbreviation of the agency submitting the DIRECTIVE package (see Annex G, Part 1).

b. DATA ENTRIES will follow the procedures specified in Section 9.7.2, paragraph 3b and as outlined in paragraphs 3 and 4 below.

c. Comments concerning an FAS agenda docket which the applicant or the NTIA/FA&IASD wishes to make a part of the FAS agenda record, but not a part of the GMF record, may be entered using the field mnemonic FAS (see Section 9.8.2, paragraph 79).

3. Changes to applications on the FAS agenda may be made by submission of DIRECTIVES. However, no more than 60 data fields may be changed and the following rules apply:

a. Serial Numbers (SER) may never be changed.

b. If the application is a MODIFICATION or RENEWAL no change may be made to the FREQUENCY (FRQ) and TRANSMITTER STATE/COUNTRY (XSC) fields.

c. If the application is a DELETION, no changes are allowed.

d. Changes to any field not listed in 3e, below, will result in the application being redistributed to the FAS representatives for additional review. All agencies, except the host, must vote on the redistributed application. A redistributed application previously TABLED by an agency other than the host will REMAIN TABLED until the tabling agency votes to accept (see paragraph 4, below).

e. The following fields may be changed without causing redistribution or rejection:

(1) ACL, BUR, ICI, NET, RAL, RAP, RAZ, RRC, RYR, SPD, SUP, XCL, XRC, VOT, \*AGN, \*CAN, \*DOC, \*EQT, \*EQR, \*EQS, \*EBW, \*SBW, \*EGN, \*SGN, \*ENT, \*RNT, \*SNT, \*JNT, \*MEX, \*ORB, \*RPT, \*SYS, \*USA.

(2) \*ESB, \*ESR, \*EST--ONLY if added as a new occurrence.

(3) EXD--ONLY if changed from blank to numeric, or if the change decreases numeric value in the application.

(4) NTS--ONLY if added as a new occur-

rence and does not include a new entry of S148, S164, S288 or S322.

(5) XAL--However, if the FAS agenda item is a MODIFICATION action and the XAL was changed on initial submission, it may NOT be changed back to the ORIGINAL XAL via a directive. (If the agency desires to do this, the MODIFICATION or RENEWAL action must be withdrawn from the agenda and resubmitted at a later date with the correct XAL.)

(6) FAS--However, if changes are necessary, resubmit the entire FAS field with the changes incorporated.

4. VOTE DIRECTIVES shall be submitted using the mnemonic VOT with any two digit occurrence number, however 00 (zero zero) is recommended. A VOTE is a four part field - THE FIRST THREE MUST ALWAYS BE COMPLETED.

a. The first part consists of a single letter followed by a comma. Use:

(1) the letter A to accept the application;

(2) the letter T to table the application;

(3) the letter R to withdraw the application (only the submitting (host) agency or NTIA may vote R);

b. The second part consists of the abbreviation (see Annex G) of the FAS member agency submitting the VOTE DIRECTIVE followed by a comma.

c. The third part shall always be the five (5) digit number found in RVS for the application being voted. To insure votes are applied to the most current version of an application, votes that do not match the number found in RVS by NTIA's automated program will not be processed and registered.

d. IF PART FOUR IS USED, a COMMA must be included immediately AFTER THE SECTION NUMBER in part three. The fourth part is a 59 character field for agencies to use for comments concerning the application. As a minimum, it is suggested that agencies tabling an application include comments with reason for tabling, or provide a name and telephone number for further contact.

*Examples:*

\$\$DIR I8900006  
 AGC01 NTIA  
 VOT00 T,NTIA,00025,CONTACT  
 JOHN SMITH,PH 202-202-2020

ENDREQ RANGE I8900290/I8900310  
 \$\$DIR I8900290  
 AGC01 USIA  
 VOT00 A,USIA,00315

\$\$DIR I8900330  
 AGC01 USIA  
 VOT00 R,USIA,00315,TO RESUBMIT

\$\$DIR I8900331  
 AGC01 USIA  
 REM02 \*AGN,NEW INFO  
 REM03 \*EQS,LMS

### 9.16.2 Agency Comments and Voting Procedures

1. CONDITIONAL comments, called Minute Notes, may be recorded on frequency assignment actions (see Section 9.8.2, para 39). These comments will not duplicate conditions specified in a Record Note (see Annex A) or a Footnote to the Table of Frequency Allocations (see Part 4.1), and will be submitted in card format as a DIRECTIVE in accordance with Section 9.16.1 and below.

a. Directives adding Minute Notes to an assignment action must be submitted only by the host agency. An agency wishing to record Minute Notes on another agency's application must submit a VOTE DIRECTIVE to table the application, and include comments as to the reason for the tabling action.

b. Minute Notes that will exceed eight lines of the CIRCUIT REMARKS field must be submitted by letter to the Secretary, FAS. The Secretary, FAS, will assign an FAS Administrative (ADM) Docket number to the comments. The FAS ADM Docket number will then be

recorded in the Circuit Remarks field of the affected application by the NTIA/FA&IASD.

2. Frequency assignment actions on the FAS agenda will not normally be approved by NTIA until all voting is unanimous, or until 15 work-days after the Initial Processing Date. For exception for AAG, Canada and Mexico, see 2c below. All voting shall be in accordance with the following:

a. FAS member agencies MAY vote either to accept (A) or table (T) another agency's applications, and MAY vote to withdraw (R) their own applications. However, an agency MAY NOT vote to withdraw (R) another agency's applications.

b. FAS members that represent other agencies are considered the host and need not vote on the applications they submit on behalf of the represented agency, except to vote a withdrawal (R).

c. Applications, except those within the AAG area of responsibility or those from Canada and Mexico, will be automatically approved by NTIA after 15 workdays of the Initial Processing Date (IPD) unless a vote to TABLE has been recorded.

(1) Applications within the AAG area of responsibility which have not been voted ACCEPT by the Chairman of the AAG within 15 workdays of the IPD will be automatically TABLED to the AAG Chairman.

(2) Applications from Canada and Mexico will be automatically approved by NTIA after 30 calendar days of the IPD unless a vote to TABLE has been recorded.

### 9.16.3 Agency Votes and Directives on Canadian and Mexican Frequency Assignment Proposals

1. Agency votes and directives on Canadian and Mexican frequency assignment proposals on the FAS agenda will be prepared in accordance with 9.16.1. NTIA's vote represents a vote on behalf of the non-member agencies.

2. Agencies may only vote A to ACCEPT, or

T to TABLE. Agencies may not make directive changes to Canadian or Mexican proposals except to add a \*USA entry to the Circuit Remarks (REM) field or revise their own \*USA comment.

3. Only Canada or Mexico may vote R to REJECT/WITHDRAW their own proposals. NTIA may vote to REJECT a Canadian or Mexican proposal which is TABLED with an HIA comment, but only after some mutually agreed upon period of time with no resolution of the problem indicated by the HIA comment.

4. Vote A if the proposal is No Harmful Interference Anticipated - NHIA

\$\$DIR I9102222  
AGC01 NASA  
VOT00 A,NASA,00690,NHIA

5. If the proposal is NHIA but you wish to add some additional information or make a noting comment, vote A and use the acronym NHIC in the comment (VCM) portion of the vote card. Follow the vote card with an entry for the Circuit Remarks field (REM) using the identifier \*USA for the comment. If the vote is NHIC and there is no \*USA entry for Circuit Remarks, the reply will go to Canada or Mexico as NHIA. An agency card is mandatory in order to connect the appropriate agency with the associated remarks.

\$\$DIR I9102223  
AGC01 J  
VOT00 A,J ,00690,NHIC  
REM05 \*USA,NHIC, Noting use of  
M163.4375,U.S.  
REM06 \*USA,NHIC,serial I8701234,  
Detroit, MI.

6. Vote T for Harmful Interference Anticipated - HIA. Use HIA in the VCM portion of the vote card. Follow the vote card with an entry for REM using the identifier \*USA for the comment. An agency card is mandatory.

\$\$DIR I9102224  
AGC01 AR  
VOT00 T,AR ,00690,HIA  
REM03 \*USA,HIA,U.S. serial I8302345,  
M169.25,  
REM04 \*USA,HIA,Detroit, MI.

#### **9.16.4 Coordination and Referral of Applications for Frequency Assignment Action**

1. In accordance with the agreement shown in Part 3.4, the NTIA's Frequency Assignment and IRAC Administrative Support Division (FA&IASD) coordinates certain applications for frequency assignment action with the Canadian Department of Communications (DOC). When it is determined that an application must be coordinated with Canada, the NTIA/FA&IASD will table the application pending comments from Canada concerning the coordi

nation.

2. By applying for a frequency assignment an agency coordinates with other agencies which might be affected by the applicant's use of the frequency through the FAS agenda process. In the event unfavorable coordination comments are received either before or subsequent to submission of an application for the FAS agenda, applicants may request the application be referred to a meeting of the FAS for deliberation.

a. To request referral, the host shall include a request for referral using the VOTE directive; the host shall vote to table and shall use only the words REFER TO FAS in the comments portion of the Vote directive (see 9.16.1 above).

b. If referral is requested, the host should also submit a letter to the Secretary, FAS with a copy of all unfavorable comments attached, explaining in detail why the application should be favorably considered. The FAS will deliberate the applications and recommend a course of action.

3. An item on the FAS agenda shall be referred to the IRAC for consideration:

a. Upon the specific request of any FAS member agency or the FAS Chairman;

b. if it cannot be resolved solely on the basis of technical considerations;

c. if it is a matter for which policy has not heretofore been established;

d. at the specific request of the IRAC; or,

e. if specifically directed by other Parts of this Manual.

4. The FAS shall take no action on an item referred to the IRAC until advice has been received from the IRAC. When referring items to the IRAC, the FAS should provide all pertinent information, including:

a. A statement of the problem;

b. facts bearing on the problem, including the background;

c. a list of agencies that favored approval and those that favored disapproval; and,

d. a brief statement of the basis given by those agencies that objected to approval of the item.

**(Last page in Chapter 9)**